



## Ch. 8 – daily "Non-Duality & Science" blogs

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### NMT (No-Me Teaching) new series 24:



Prior to excerpting the other Ramana Maharshi disciple in the text below we continue the series: *Fine-Tuned Universe 16*, the premise that a small change in several of the dimensionless fundamental physical constants would make the Universe incapable of Life.

### Fine-Tuned Universe 16:

*[In the unreal reflection called the "Universe", a product of an unreal Mind, even there, Infinite Intelligence is evident and inspiring.]*

### Early Speculation:

Hoyle (not originally an Intelligent Design advocate) pondered whether these and many, many other fortuitous coincidences would someday be shown to have been necessary outcomes of the Universe's structure, [OR] an infinite Steady-State Universe could

accommodate diverse regions with every allowable permutation of these constants (an early Ensemble hypothesis).

The curious placing of the levels in  $C^{12}$  or  $O^{16}$  need no longer have the appearance of astonishing accidents. It could simply be that since creatures like ourselves depend on a balance between Carbon and Oxygen, we can exist only the portions of the Universe where these levels happen to be correctly placed. In other places the level of  $O^{16}$  might be a little higher, so that the addition of a – particles to  $C^{12}$  was highly resonant. In such a place creatures like ourselves could not exist. Fred Hoyle's early Anthropic-Ensemble model

Earlier still was Wallace's similar 1903 speculation:

Of course, there may be, and probably are, other universes, perhaps of other kinds of Matter and subject to other Laws.

For the most part, TOE candidates like String & M-theory are beyond our scope, though mention is made from time to time as we proceed. But in the spirit of early TOE predictions, Max Born (*who probability amplitude into wavefunctions*) foresaw in the 1920's that the extremal principal in paths Least-Action (*as seen in refinements of Newton's physics, Fermat's Refraction, etc.*) would later guide search for a TOE and so it has in String & M-theory.

Pierre Maupertuis and mathematician Leonard Euler in the early 18th century initiated an ongoing tradition of organizing Laws of Physics within a Principle of Least Action [as in the later Fermat Refraction Principle of Least Action and as in "action" used by Planck, Einstein] which Max Born recommended for a TOE theory of everything. Such a TOE (of wider scope than the GUT-plus-Relativity sense) might from first principles explain a, b, and other Rees' Numbers; as well as Numbers and Ratios enumerating and connecting Photons, Dark Matter, Dark Energy and related repulsive High-Temperature scalar fields, Universe & Expansion lumpiness and homogeneity (to 0.001 %), all from a Big Bang Universe portion only an octillionth of a meter across (as regards the visible Universe, whereas fluctuations can be inferred theoretically for beyond-the-visible regions of the Universe, beyond 13.7 B Light-years due to Inflation).

A fantastic Multi-Verse proclamation, or perhaps even long-odds are easy to glibly accept, regarding Constants of Physics, for those not motivated to grant the issue long study and attention, and then again also for those who do so attend but remain intransigent in Physicalist Realism. But for anyone not so entrenched, and curious enough to look at the much published reviews, a WAP, Weak Anthropic Principle (constants fit us because we're here), veers toward stronger SAP, Strong Anthropic Principle that something is up. Somehow the Universe accommodates us quite by some kind of intention by

something/somebody or other. Here was a more sophisticated Paley-watch demanding a Watch-maker. So it was for Hoyle later on:

I do not believe that any Scientist who examined the evidence would fail to draw the inference that the Laws of Nuclear Physics have been deliberately designed with regard to the consequences they produce inside the Stars. If this is so, then my apparent random quirks have become part of a deep-laid scheme. If not we are back again at a monstrous sequence of accidents. Fred Hoyle, Ensteinian Deist turned Anthropist

Some more selected verses from the other Ramana Maharshi disciple:

The Self is Peace and Happiness. Realizing Peace and Happiness within you is the true realization of the Self. You cannot distinguish between Peace, Happiness, and the Self. They are not separate aspects. You have this idea that Peace and Happiness is within you, so you make some effort to find it there, but at the moment it is still only an idea for you. So, ask yourself, "To whom does this idea come ? Who has this idea ?" You must pursue this line if you want to have the idea replaced by the experience. Peace is not an idea, nor is it something that comes and goes. We are always *That*. So, remain as *That*. You have no Birth and no Death, no bondage and no freedom. It is perpetual Peace, and it is free from all ideas. The "I am the Body" idea is what is concealing it. This is what has to go.

The idea "I am the Body" is not there during sleep. Everyone enjoys sleeping, and the reason we enjoy it is because there are no thoughts there. It is there during sleep. Everyone enjoys sleeping, and the reason we enjoy it is because there are no thoughts there. It is the thoughts that arise subsequently that cause us all our trouble. There is no separate entity during sleep because no thought has arisen to create the image of one. When waking comes, this first rising thought, 'I am the body', brings separation, doubts and confusion. If you can be without it in the waking state there will be\_ the knowledge, 'I am Ramana, I am Arunachala. Everything is myself.' Ram, Krishna, etc., are all you. It is just this limiting 'I am the body' thought that keeps this knowledge, this awareness from you. In the waking state, the jnani has no limiting thoughts, no ego that identifies with a name and a form. His state is crystal clear. Ramana Bhagavan had no Ego, no limiting thoughts, which is why he knew himself to be this Peace, this Happiness.

Grace is always present, always available, but for it to be effective, one must be in a state to receive it and make full use of it. If you want to take a full cup of water from a lake, you have fully to immerse the cup first. If you want to fill your mind with grace, submerge it fully in the Self. In that place the Grace will manifest in you as Peace and Happiness.

"When the sun comes up, does darkness disappear suddenly or gradually ?" Bhagavan, speaking on this topic, once remarked: "Someone mistakes a *rope* hanging in the darkness

for a *snake*. He then asks how many years it will take for the *snake* to die." If the Mind does not exist, it cannot die either quickly or slowly.

All the information the Mind accumulates & all the experiences it collects are ignorance, false knowledge. Real knowledge cannot be found in the Mind or in any external location. Don't be interested in the words that the Mind is serving up for you. It is putting them there to tempt you into a stream of thoughts that will take you away from the Self. You have to ignore them all & focus on the light that is shining within you.

The substratum upon which the false idea of the Mind has been superimposed is the Self. When you see the Mind, the Self, the underlying substratum, is not seen. It is hidden by a false but persistent idea. And conversely, when the Self is seen there is no Mind.

This habit of believing the 'I am the body' idea has become very strong because you have reinforced & strengthened it over many lifetimes. This will go if you meditate on your real Self. The habit will melt away, like ice becoming water.

The Mind only gets dissolved in the Self by constant practice. At the moment the, "I am the body" idea disappears, just as darkness disappears when the Sun rises.

The body is not the Self; the Mind is not the Self. The real 'I' is the Self, & nothing ever happens to or affects the Self.

NMT (No-Me Teaching) new series 26:



Prior to excerpting the Ramana Maharshi disciple, Master Nome in the text below we continue the series: *Fine-Tuned Universe 18*, the premise that a small change in several of the dimensionless fundamental physical constants would make the Universe incapable of Life.

Fine-Tuned Universe 18:

Early Fine-Tuning:

Some additional Fine-Tuned constants include the anisotropy of the Universe's expansion and the Fine-Tuning of smoothness-lumpiness as depicted in the CMB image below:

Other Fine-Tuning includes the Ratio of ordinary Luminous Matter to Dark Matter, and the ratio of both of these to Dark Energy.

Another key ratio is that of Photons per Proton or Neutron. Originally, at the conclusion of Cosmic Inflation, the Protons, anti-Protons, and Photons were equal in number. All that occurs near an octillionth of a second of age with about an octillion degrees being the Temperature. That Inflation took a Universe about an octillionth of meter across to one that with slower continuing expansion is now an octillion meters across. That original tiny region was one of very many pre-existing that “took-off” fortuitously, because it was just the right one.

Upon annihilation of anti-Protons, with the Universe a ten-thousandth of a second old, the Proton number went down and Photon number remained relatively very large, with only ten trillion degrees as the Temperature.

As late as 1 second after the Big Bang at ten billion degrees of Temperature, the Proton/Neutron ratio leveled off at 6:1.

“Much later after 100 seconds at a billion degrees, Proton–Hydrogen comprised some 75% of Atoms, Helium 25%, with Deuterons down to 0.00033%, but there were 2 Billion Photons per Matter particle.

The CMB image above records the Universe at 1 Month but Matter Density did not match Photon Radiation Density until the Universe was 56K yrs old.

A long wait, 300K yrs of the Radiation Era of only Electrons, Nuclei, and Photons continues until the cooler 3K degree (a lab value) and below Temperature allows the beginning of Atoms in the still-ongoing Matter Era.

### 300K yrs Universe:

After very early “explosive” (of space-time, not matter) Inflation, much slower, continuing Expansion seems “critically” Fine-Tuning for flat Space moderately expanding, the middle alternative in the Size vs. Time plots below. Then again, repulsive Vacuum Energy may be accelerating our Universe out of its present, long-standing Cold Dark Matter stage into Open Expansion in the Future.

Cosmological Const ==> curved-out expansion; flat critically in between; curved-in collapse

This very specific sequence and interplay were all Fine-Tuned to a degree without which there could not have been Intelligent Life.

Some more selected verses from the Ramana Maharshi disciple, Master Nome disciple:  
The unknown Knower of all that is known, the Supreme Knowledge itself, Consciousness remains undivided by the *triad* of Knower, Knowing, & Known. Consciousness can never be a known or unknown object. Consciousness is the Witness of all, the only Knower. Consciousness, the Knower, is never defined by the Known. Consciousness, the Witness of every state, of all thought, is not defined by thought, nor contained in any state. The Witness is never known. Consciousness is ever non-objective. Consciousness is formless – with nothing objective within or without. Unknown, Consciousness alone is known. Not a *process* of knowing, Consciousness alone is knowing. Not a knower, Consciousness alone is the Knower, the unknown Knower of all that is known.

Bondage is only Ignorance, or error in understanding. One does not attain Self-Knowledge due to Ignorance about the True Nature of the Self & adherence to false conceptions about the Self. The Ignorance makes one feel bound, & the adherence to false notions maintains the Ignorance, yielding the apparent solidity & false continuity of Illusion. Both Ignorance & the tendency to adhere to it are destroyed by Self-Inquiry to know the Truth of the Self.

Sri Shankara declares that just as trees on the bank seem to move when one is in a moving boat, so “transmigratory existence” (*life in a Waking World, repeating like nightly dreams, but rather as “physical” Re-incarnation*) seems to be true to one who mis-identifies the Self with the Mind.

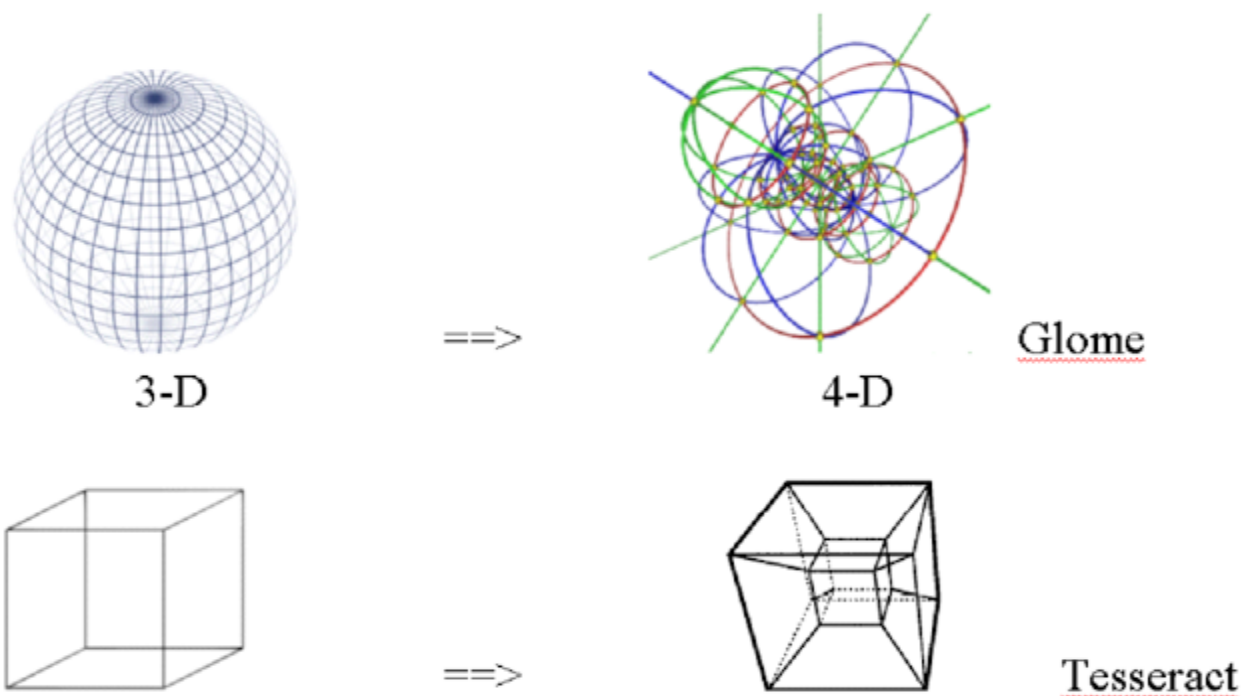
Thus, when the Mind “moves”, one thinks that the Self (*like the stationary trees*) “moves”. When the Mind is still, one assumes the Self is still. Because the modifications of the Mind are pervaded by the reflected light of Consciousness, with the qualities of Reality & Identity borrowed from pure Being, one assumes that the Self is identical with the Mind & identifies oneself with those modifications. Thus one imagines, “my thoughts, my state of mind or being, my experiences, etc.” The Mind, or the Ego, is *objective*, appearing by the light of pure (*absolute non-dual*) Consciousness alone. Pure Consciousness is the Absolute & is directly realized as existing as such when the “this”, or the *objective* portion, falsely attributed to it is negated.

Ignorance, or Illusion, is merely a superimposition. By “superimposition” is meant the imagined placement of some attributes, that do not belong to the Self, upon the Self. The basis of the superimposition is real. That basis is pure Existence, pure Consciousness. The superimposed is not a reality in & of itself, but is only a product of Imagination, the result of Ignorance.

It is like the *snake* imagined to be present when there is only a discarded *rope* in dim light. The *snake* is not real & was not really born. But in Imagination, the *snake* seems to be there, & as long as one is convinced that the *snake* is there, the true *rope* is invisible. If one

removes that Illusion with the light of Knowledge, he sees the *rope* alone, as it is, which has been the only reality the entire time. The *snake* in the analogy represents all that is attributed falsely to the Reality of the Absolute Self, such as the World, the Body, Mind & its conceptions & tendencies, as well as Ego.

### NMT (No-Me Teaching) new series 28:



Prior to excerpting the Ramana Maharshi disciple, Master Nome in the text below we continue the series: *Fine-Tuned Universe 20*, the premise that a small change in several of the dimensionless fundamental physical constants would make the Universe incapable of Life.

### Fine-Tuned Universe 20:

Put a hula-hoop onto a large table and within the hoop place one of those ultra-disposable cellophane gloves, perfectly flat, the same on both sides. With all this on the table, what you happen to see is a Right-handed glove, as if in a 2-D World of the table-top, and specifically “locked-in” (in a 2-D sense) within the hula-hoop “chamber” (in a 2-D sense). Without a “door” (opening) in this hula-hoop chamber, the Right-handed glove cannot be taken outside. But if the glove can be brought into the 3rd Dimension of Space, “escape is accomplished. Just lift it up and put it down again outside the hula-hoop circle. Similarly, if you put a Right-handed glove back down on the table inverted from how it had been, you

would have changed it into a Left-handed glove. Symmetry-change, barriers, and other challenges can be conquered with access to a higher Spatial Dimension.

"If it is possible that there could be regions with other Dimensions, it is very likely that a God had somewhere brought them into being. Such higher Spaces would not belong to our World, but for separate Worlds."  
Immanuel Kant

The very size of Space also serves to protect us (and alien civilizations ?) from potentially predatory alien civilizations (every group gets its own sandbox. The Light-Speed-Limit keeps us 3 seconds from the Real Time of the Sun. The lag becomes 4 years for the next Sun (star) down the road, Alpha Centauri, but who travels near the Speed of Light? And then the Time buffer extends quickly to thousands, millions, and billions of years. In some kind of currency, it has to cost a lot for strangers to come and bother us for no good reason.

Curiously, Kant foreshadowed a Multi-Verse, one which kept God in the picture instead of, as today, supposedly automatically "proving God need not or even does not exist. The Idealist philosopher Immanuel Kant in mid-19th century also reasoned out that the inverse-square dependence of Newton's Gravity on Spatial distance verified that Space could not be 4-D. Expanding spheres of distance describe the attenuation of Gravity (& Electrical force), necessarily by an inverse-square characteristic of the Surface Area of the 3-D sphere. A 4-D Space would dictate an inverse-cube relationship characteristic of a 4-D Hyper-Sphere (a Glome).

The generalization of the Philosopher's insight is that the Structure of Space dictates Physical Law in these cases, rather than vice versa, an early Anthropic insight at that. Another Victorian dance with Dimensions was of course the elsewhere-mentioned Flatland by Edwin Abbott, ranging all the way down to 0-D which is somewhat comically used to parody UQND, represented by 0-D. Sometimes folks have joked about something they dare not promote (in that day and time), just to get in mention of it without openly committing themselves, and that case may consciously (or sub-consciously) be a bit of that as well.

*"The Universe is real but you can't see it, You have to imagine it."* Alexander Calder

The referenced 20th century sculptor makes a good point (especially after we take out the unprovable assumption that the Universe is "real" anyway) which is that Sense-Impression of a universe is Imagination. We cannot really "see" or perceive it directly, even up close. Out at great distance, we must depend on the testimony of Science and media anyway, even if the Objective were to be provably real.

Throughout these scenarios, one Dimensionless Ratio of note is the Cosmological Constant mentioned above as controlling the Expansion of the Universe.

Some more selected verses from the Ramana Maharshi disciple, Master Nome:

The Self is just Being, pure Existence. It is not being this or that. It is just Being, pure Existence. Self-Realization is just Being. It is not being this or that. It is just Being. Being, pure Existence knows no alternative. The Self is just Being, pure Existence. Being, pure Existence never changes its nature. That which truly is never ceases to be. That which ceases never actually is. That which truly exists never changes. That which changes never truly exists. That which is changeless is without destruction. The indestructible is only that which is without creation. The unborn is the undying. The unchanging is alone Being, pure Existence. Being never changes its nature.

The Self ever is just as it is. There is no time when Being, pure Existence is altered. There is no time when you are not the Self. Primordial Being eternally is, is what you are even now. Immutable Being is Peace itself. For there is no time when Being is altered. Just as it is, the Self ever is.

Being alone knows itself, the "I"-less "I" realized as "I," forever undefined, the only Existence, the only Knowledge, the only Knower. Thus is Brahman, Absolute Reality, always present, unmarred Perfection, the unformed Void, attributeless Being, ever itself just as it is. The only Identity, the only Reality, Being alone knows itself .

Without any other is Absolute Being, formless & Non-Dual, the only Existence. Two that are Formless cannot be. Undivided, homogeneous, alone is Being. nothing outside it & no outside; nothing within it; alone is Being, pure Existence. Nothing comes before eternal Being; nothing comes after eternal Being. Without any other is Absolute Being, pure Existence.

The Truth of Being is solely Reality. Not from illusory things falsely experienced does the sense of Reality in every experience derive, but only from the Self, the only Source, the Real. Real Being depends not on anything else to be. Uncaused itself, the Absolute Self doesn't cause anything else. Infinite, there is nothing beyond produced by it. Mistake not perception or conception for Existence itself. Reality is solely the Truth of Being.

NMT (No-Me Teaching) new series 30:



### Reference:

From various fields of human knowledge that use the term "reference" in a similar way, we can look at that *objective* description as another guide to the structure of *Objectivity* itself. Both are illusory [*the "reference" description & the structure of Objectivity*], but examination can lead to Detachment, Elimination, & Freedom from the illusory *objective* notion.

In Grammar for instance, "reference" is the pointing from one word to another, that to which it refers. In the elementary Mathematics of Graphs, for instance, the central point of a Coordinate Space, the Origin, (0, 0) or (0,0, 0), etc. depending on the Dimension. That Reference is perhaps even more of an incisive guide to understanding the nature of the Subject–Object relationship.

Specifically if Ego be considered the Reference Origin for all Thoughts, then the Mind can be seen to be structured like a Graph or Coordinate Space. No *objective* notion or presumed *object* considered by that Mind, by means of Thought, nonr has any independent meaning. Each Object, Thought, Relationship, ... has the Ego Origin as a Reference that identifies & specifies

Near is near to me while, far as far from me. Good is good for me, while bad is bad for me. Tall vs. short, long ago verses in the future & all sorts of designations besides these elementary dual polarities, all sorts of ideas, & all the presumed Objects they refer to, all have me, the ego as the necessary Reference.

We can take as another example, simple visual Perception. I can be looking at *chair* but only at what is essential is my perspective. I am such and such a distance, standing in such

and such a manner, so as to be viewing from such and such a height. Besides the height, distance, & direction of the chair, all of the characteristics like: color, shape, form of every kind, only have meaning in reference to myself.

This *Reference*, in the objective sense, the Ego, the Origin & so the whole Universe of *objects & mental sphere* of Ideas exists for Me. References to Me, my Ego, these *things* have no connection or relevance directly to a comparable set of Objects, ideas, & Relationships references to some other Ego.

The whole apparent World is perceived. Those Perceptions are all that we know, *objectively*. The Perceptions, of themselves, are only thoughts, thoughts in the Mind like other thoughts. The Mind is an inexplicable & evanescent structure presumed upon Consciousness. The Mind could also be said to be the collection of thoughts which that Mind generates. But what are thoughts ? Only indefinable, passing structures in Consciousness. In any case, the only Universe for me is the one that is referenced to me. If there are other others, whom I only know as references to me, or if they should exist independently, then their Universes would be distinctly other than *mine*.

So these "slices" of referenced Perception & mental consideration are all that could be put forth as "constituents" of a Universe. But those "constituents" & Universes referenced to one Ego do not connect with those referenced to another Ego. Nor do those referenced to any given Ego stand up as a well-defined Universe, being as they are only a collection of Thoughts. They are Thoughts which themselves are indefinable, in a equally inexplicable Mind.

So looking, in the sense of Reference, between every Object & Subject, Ego or Mind can have only one result. Clearly the set of all these compose each "Universe" into a disconnected set of questionably defined structures in Consciousness. The Consciousness is undoubtedly Real. The mental structures come & go, & don't seem to be made of anything. And yet they make up each of the Ego references Universes. This is much like the contents of Dream. But the Waking State Dream is completely analogous. The World in the Waking State, the Person in the Waking State, & all else are no more real than those in a Dream. The Consciousness alone is Real. That Consciousness is Brahman, is the Self, Atman, the only & Absolute Reality.

Prior to excerpting the Ramana Maharshi disciple, Master Nome in the text below we continue the series: *Fine-Tuned Universe 21*, the premise that a small change in several of the dimensionless fundamental physical constants would make the Universe incapable of Life.

Fine-Tuned Universe 21:

### Broader Categories of Fine-Tuning:

More “generous” listings of *Fine-Tuned* parameters, like those of admittedly *theistically*–biased Robin Collins, include other aspects of the Universe that *had* to be there, some so basic that *Realist* Physicists would not even give them a 2<sup>nd</sup> thought and simply assume them as a given. For instance, Laws of Nature that are utterly essential for Life (*always assumed hereafter to mean Intelligent Life*) include the 4 Fundamental Forces: Gravity, Strong & Weak Nuclear force, and Electro-Magnetic force, all pretty much functioning close to as they are for Stars and for Life. Some of the many fine points would include the extremely short range of the Strong *gluonic* nuclear force. Without that limit the Universe would fast have become a single Black Hole. Related and within the same constraints might be Bohr’s Quantization rule and the Pauli Exclusion principle, both essential to the existence of and nature of Atoms.

### Fundamental Constants in Perspective:

Collins backs a clear point of placing the “allowed” range of a Fundamental Constant in the context of a reasonably likely or possible range as might be expected. For instance the simple Dimension case of  $N = 3$  is “normalized” by considering 2-D & 4-D Space, with or without another Time dimension. In more variable parameters, Collins defines  $W_r$  as the “width” or the Life-permitting parameter range, which he compares to the possible “reference” range width  $W_R$  so that:  $W_r / W_R \ll 1$  is the criterion that characterizes *surprising* Fine-Tuning.

Nuances include Chemical and Biological consequences to be reviewed a bit later, but for one example, we consider Gravity. Life could evolve with Gravity greater on Earth, but much greater would have prevent Brain-size compatible with Intelligence. If Gravity were greater, the Earth could be proportionally less massive, but the fundamental burn-rate of Stars would have been too fast to allow Time for Life to evolve to Intelligence. Certainly a  $G$  that was 3K (x) greater would result in fast-burning Stars.

*Fine-Tuning* of Gravity relative to the Matter Density of the early Universe, the manner of the Big Bang expansion (*rather than explosion*), relative to the Photon Radiation Density versus that of Protons and Neutrons, and all positive (*repulsive*) contributions to the Cosmological Constant – all such as these restrictive ranges overlap like compounding *conditional* Probabilities. The net estimate for leeway in Gravity comes down to a *Fine-Tuning* to a precision of 1 part in  $10^{60}$  or 1 part in Nonillion Octillions, very *Fine-Tuned* indeed. This cannot be a lucky accident – hence Design or near-infinite *Ensemble*.

### Cosmological Constants Tuned Finer:

The previously mentioned contributions to the Cosmological Constant such as *Vacuum Energy Negative Pressure*, *Quintessence*, and unknown aspects of *positive Dark Energy*, perhaps with some moderating attractive aspects can be supplemented by other theoretical possibilities. Some of the Quantum Field Theory nuances of the Electro-Magnetic field and Higgs (*mass creating*) fields associated with the Weak Nuclear force [from Weinberg-Salam-Glashow Electro-Weak theory]; an *Inflaton* field hypothesized by Inflationary Cosmology; a *Dilaton* field hypothesized by Super-String theory; and other fields associated with elementary particles may be attractive components (*as always Fine-Tuned*) to offset the theoretically excessive *Vacuum Energy* and still permit Life. Overlapping Field influences with non-linear contours (*in phase-space many dimensions*) entail intersection of Energy minima of various sizes and shapes. Some estimate the *Fine-Tuned* precision to again be 1 part in  $10^{53}$  or 1 part in a Septillion Octillions. An this “filter” compounds or multiplies to some extent with that for Gravity above to produce a tolerance approaching 1 part in  $10^{110}$  or 10 Billion Googols. [*Warming up to these with looser tolerance prevents premature lose of sanity, but it does go on from here, and like the Multi-Verse, the numbers get pseudo-infinite.*]

Considering that Inflation is thought to have enlarged Space-Time by a  $10^{60}$  factor (*octillion octillions*) in a nano-nano-nano-nano-second, *big* forces resulting in *Fine-Tuned* smoothness were at play in the early Universe.

### Initial Conditions of the Universe:

*Fine-Tuning* of Initial Boundary Conditions (*having everything start just so*) includes initial Entropy and distribution of Mass-Energy, mass and Energy Density perturbations, *anisotropy*, “chance selection” small region with 3-D that underwent Inflation, *peas-sized pre-Big-Bang seed* of . The estimated *Fine-Tuned* precision exceeds that of hitting a Proton sized target on a *dart-board* as big as the current Universe, or: 1 with a Septillion of Googols of zeroes

Again the question remains, how to explain the coincidences, Design or Ensemble ?

*O World of many worlds, O life of lives,  
What centre hast thou? Where am I?*

Wilfred Owen , WWI poet

Some more selected verses from the Ramana Maharshi disciple, Master Nome disciple:

One Non-Dual Self alone is. The one Non-Dual Self is the undivided Consciousness. This is the only Knower in all. There are not different kinds of Knowers, such as higher & lower knowers. The Minds of all are pervaded by the one Consciousness within, which is the Self. This is the "I" of all. So there is no one else who knows, or who does not know. The "I" is truly the Absolute, *Brahman*, all-knowing & all-pervading.

This "I" pervades & illumines the Mind & the Mind pervades & illumines all things ever experienced. Thus this "I" is the illuminator & pervader of all. This Self is the Witness of all *objects* of the Mind.

These mental *objects* are subtle thoughts & also all the *objects* conceived as external as well. This includes being the Witness of all other Minds conceived as existing within the Mind. Thus the Self is the Witness of all.

The Mind cannot conceive the Self, yet the Mind has no existence apart from the Self. The Self can neither be accepted, nor rejected by any of the Minds. That which cannot be accepted or rejected by the Mind is *Brahman*. That is truly the "I". *Brahman* & the Self are One.

NMT (No-Me Teaching) new series 32:



Prior to excerpting the Ramana Maharshi disciple, Master Nome in the text below we continue the series: *Fine-Tuned Universe 23*, the premise that a small change in several of the dimensionless fundamental physical constants would make the Universe incapable of Life.

Fine-Tuned Universe 23:

Boltzmann Brain Objection to the Inflationary Multi-Verse:

There is a simple argument that if the BB problem exists for the random fluctuation multiverse, then the same problem exists for the inflationary multiverse. Define a *megaverse* as some very large finite, or even infinite, region of space-time of a universe or multiverse that has some configuration of mass-energy in it. [We use the idea of a *megaverse* to avoid problems arising from defining a measure if the multiverse is infinite. If

*the multiverse is infinite, we could avoid such potential problems by making our megaverse finite but large enough to include many observers.]* The BB problem arises for a random fluctuation multiverse because, when the standard measure  $M$  of statistical mechanics is applied to the phase space of an arbitrary megaverse, the measure of configurations dominated by non-BB observers is much, much smaller than that of those configurations dominated by BB observers. Further, if this is true for the entire megaverse, then it will have to be true for any arbitrarily chosen spacelike hypersurface,  $hp$ , of constant time  $t$  of the megaverse. Thus, if we let  $M_t(BB)$  designate the measure of volume,  $V_t(BB)$ , of the phase space of  $hp$  corresponding to those configurations dominated by BB observers, and  $M_t(\sim BB)$  designate the measure of the volume,  $V_t(\sim BB)$ , of  $hp$  corresponding to configurations dominated by non-BB observers, then  $M_t(\sim BB)/M_t(BB) \ll 1$ . *[A universe is dominated by non-BB ( $\sim BB$ ) observers if and only if it contains at least one observer, and in some well-defined sense there is a greater proportion of non-BB observers than BB observers.]* That is, the measure for the possible mass-energy-momentum configurations of  $hp$  that are non-BB dominated will be much, much smaller than the measure for those configurations that are BB dominated. Assuming that the laws of physics are deterministic and time-reversal invariant, then the measure is time-invariant, as explained in Section 2.4. If we consider the mass-energy-momentum configurations of  $hp$  as evolving with time, this means that for any volume of phase space  $V(t_0)$  of measure  $M_{V(t_0)}$  at time  $t_0$ ,  $V(t_0)$  will evolve into a volume  $V(t)$  of the same measure at time  $t$ : that is,  $M_{V(t)} = M_{V(t_0)}$ .

Now, consider the initial conditions of the megaverse defined on some spacelike hypersurface of constant time  $t_0$ . Let  $V_{t_0}(BB)$  and  $V_{t_0}(\sim BB)$  represent the volume of phase space of that hypersurface that evolves into configurations dominated by BB observers and by non-BB observers, respectively, for some later hypersurface at time  $t$ . Since the statistical mechanics measure  $m$  is time-invariant, the ratio of the measure of  $V_{t_0}(\sim BB)$  to  $V_{t_0}(BB)$ , that is,  $M_{t_0}(\sim BB)/M_{t_0}(BB)$ , will remain the same. Consequently,  $M_{t_0}(\sim BB)/M_{t_0}(BB) = M_t(\sim BB)/M_t(BB) \ll 1$ . This means that the measure of initial states that give rise to a universe dominated by non-BB observers at some arbitrarily chosen later time  $t$  is much, much smaller than the measure of initial states that give rise to a universe dominated by BB observers at  $t$ . Consequently, unless the initial state of the megaverse is in a very special low-probability state – that corresponding to volume  $V_{t_0}(\sim BB)$  – it will not give rise to a universe dominated by non-BBs. This is true for any megaverse in which the laws of physics are deterministic and time-reversal invariant. Inflationary cosmology denies neither of these assumptions. Further, even though the laws of physics are not strictly speaking time-reversal invariant – since timereversal symmetry is broken in weak interactions, notably the decay of neutral kaons – the argument offered by Albrecht and others that was explicated in Section 6.3.3 does not, in any way, exploit this lack of invariance, nor does it exploit any sort of quantum indeterminacy. Thus, without assuming highly special initial conditions, inflationary cosmology cannot do better with regard to the BB problem than the random fluctuation Multi-Verse.

To illustrate this argument, consider the following analogy. Let a highly ordered, lowentropy non-BB-dominated megaverse of finite volume containing observers be represented as a black-and-white TV screen with rows and rows of O's throughout, and let a megaverse dominated by BBs be represented by occasional O's with large patches of "snow" – that is, "random" configurations of black-and-white pixels. We shall call the former arrangement the ordered, non-BB-pixel arrangement, and the latter the BB-pixel arrangement. For simplicity, suppose there are only a finite number of pixels on the TV screen. In that case, the number of ordered non-BB-pixel arrangements would be very small compared with BB-pixel arrangements. Further, suppose the image on the TV screen is being generated by some small magnetic patch on a videocassette recorder (VCR) tape that the VCR head is reading. Finally, suppose that there is a one-to-one correspondence between arrangements of magnetic particles on the patch and the possible configurations of black and- white pixels on the screen.

Because of the one-to-one correspondence, the ratio of possible configurations of magnetic particles on the patch of tape that give rise to non-BB-pixel arrangements to those that give rise to BB arrangements will be the same as the ratio of non-BB-pixel arrangements to BB-pixel arrangements on the TV screen. Thus, if the latter ratio is enormously small, so will the former ratio. This is analogous to what happens in the inflationary megaverse: because the laws of physics are deterministic and time-reversal invariant, every microstate  $m(t_0)$  at time  $t_0$  evolves into one and only one microstate,  $m(t)$ , at time  $t$ , and, hence, they can be put into a one-to-one correspondence. Consequently, just as the ratios of the number of non-BB-pixel configurations to the BB-pixel configurations is preserved from VCR patch to TV screen, the ratio of the measure of initial configurations that lead to non-BB-dominant universes to the measure of those that lead to BB-dominant universes is the same as the corresponding ratio at a later time  $t$ .

The fundamental error in Albrecht's reasoning can be illustrated by another analogy. Consider a balloon that is being unevenly inflated. Suppose some patches of its two-dimensional surface are massively blown up – say by a trillionfold in each of its two dimensions (e.g. one-trillionth of a meter becomes a meter). This corresponds to the space out of which bubble universes form, some parts of which are inflated and other parts of which are not. Now, suppose one of the blown-up patches is one square meter in volume and is completely covered by adjacent black O's that are one centimeter in diameter, with the space in between simply consisting of random mix of black-and-white dots. The scale of the order on this patch is one centimeter; at a level of less than one centimeter, there is a random mix of black-and-white dots. The crucial thing to note, however, is that scale of order of the pre-blown-up patch will be much, much smaller: one-trillionth of a centimeter. Now it is true that for any two patches, larger patches of the same order and scale of order will be much less likely to occur at random than small patches with the same order and scale – for example, a patch covered with adjacent O's of 1 cm in diameter that has an area of one square meter is much more likely to occur at random than a patch covered with the same

pattern of O's that has an area of a thousand square meters. This kind of consideration misleads Albrecht into thinking that very small patches of space-time that inflate into large observer filled, non-BB dominated universes are vastly more likely to occur than large patches of space-time that form a non-BB-observer-filled universe via a thermal fluctuation.

Consequently, Albrecht is misled into thinking that inflation can help overcome the BB problem confronting the RF model by increasing the relative proportion of non-BB observers. The problem for Albrecht's reasoning is that in order to produce a non-BB observer-dominant universe, the order of the patch that inflates would have to be at a vastly smaller scale – for example, inversely proportional to the factor by which the patch inflated – and hence contain a vastly higher degree of order per unit of volume than a corresponding non-BB-observer patch of the size of our universe that did not inflate. The decrease in likelihood resulting from the higher degree of order compensates for the increase in probability resulting from the size of the patch, as can be seen by our more rigorous argument offered earlier based on the time-invariance of the standard measure. In terms of our balloon analogy, a square patch with sides one-trillionth of a meter in length filled with adjacent Os one-trillionth of a centimeter in diameter is no more likely to occur at random than a square patch with sides of 1 m in length filled with O's that are 1 cm in diameter.

Some might try to dispute one or more of the assumptions of this argument. The most vulnerable assumptions are the problems of non-arbitrarily dealing with the possible infinities that might arise when one attempts to define a measure for the entire megaverse, along with the additional problem of making rigorous the claim that in the entire phase space, the measure of non-BB-dominated hypersurfaces is much, much less than that of BB-dominated hypersurfaces. These problems, however, are as much a problem for making Albrecht's argument rigorous. The whole point of Albrecht's argument is that inflation does better with regard to BBs than the random fluctuation multiverse. In order for this claim to be true, there must be some “correct” measure  $M$  for the possible mass-energy states of the multiverse (or at least for arbitrarily chosen very large finite subsets of it) such that non-BB-observer-dominated states have a much, much smaller measure than those of BB-observer-dominated states for the random fluctuation model.

In response, perhaps Albrecht could appeal to some notion of a “generic” initial state that is not dependent on the existence of a measure over phase space. Such an appeal, however, will immediately run afoul an objection Penrose has raised. Consider an enormously large universe that eventually collapses back on itself and assume that all the special laws that are required by inflation hold in that universe. (*We could even have an infinite Universe with a negative cosmological constant to ensure collapse.*) Suppose that this Universe had many domains, some of which are highly irregular. In fact, we can suppose that it is chock full of BBs. As Penrose points out, the collapse of such a universe will result in “a generic *space-time singularity*, as we can reasonably infer from precise mathematical theorems”

Assuming that the laws of physics (including those of inflation) are time-symmetric (as is typically assumed in these contexts), if we now reverse the direction of time in our model, we shall “*obtain an evolution which starts from a general-looking singularity and then becomes whatever irregular type of universe we may care to choose*”

Since the laws governing inflation will hold in this time-reversed situation, it follows that one cannot guarantee that a uniform or non-BB-dominant universe will arise from generic initial conditions. Thus, inflationary cosmology can explain such a universe only by effectively presupposing those subsets of generic initial conditions that will lead this type of universe. As Penrose notes, “The point is that whether or not we actually have inflation, the physical possibility of an inflationary period is of no use whatever in attempts to ensure that evolution from a generic singularity will lead to a uniform (or spatially flat) universe” .

The above arguments do not show that inflationary cosmology is wrong or even that scientists are unjustified in accepting it. What they do show is that the inflationary multiverse offers no help in eliminating either the fine-tuning of the laws of nature or the special low-entropic initial conditions of the Big Bang [BB].

With regard to the special low-entropic initial conditions, it can explain the special conditions of the big bang only by hypothesizing some other, even more special, set of initial conditions. Although a chaotic inflationary model might lead one to expect a universe like ours, unless highly special initial conditions are assumed across the entire multiverse, it leads to a multiverse dominated by BB's for all later times and thus does no better than a random fluctuation model. It also runs into the generic problems faced by multiverse hypotheses. If we find the existence of a BB dominated multiverses unacceptable, it follows that an inflationary-superstring multiverse at best eliminates only the need to explain the life-permitting values of the constants of physics (and perhaps other non-entropic types of special initial conditions). Because of the highly speculative extra laws and conditions required to make an inflationary multiverse work, one could not be blamed if one judged that such purported explanatory ability were far too costly.

Some more selected verses from the Ramana Maharshi disciple, Master Nome disciple:

Those who would know the Self by Knowledge, cease to regard the Senses as a measure of Reality or of the Self. Non-sensory Knowledge reveals the Self's freedom from the Senses & sets one free of the limitations of the Senses. Those who know that there is neither permanence of the Senses, nor Happiness via the Senses, who do not equate Pleasure with Happiness, of equate Pain with Suffering, but realize that Happiness & Suffering are determined by Knowledge of the Self or Ignorance respectively. Those who desire to experience the spiritual Truth beyond the Senses, take recourse to the Inquiry to know the Self. By such Inquiry, the Knowledge, that the Self is innately transcendent of the Senses & not bound by the Senses in any manner, shines. The Knowledge of the Self is itself free from

limitations of the Senses, as is the Self itself. Those who abide in this Knowledge remain unmoved by whatever happens to the Senses. By Knowledge of the Self, Knowledge of Reality, one brings about the destruction of the foundations of the delusion of believing in the existence of an external World.

The Wise know that the Senses do not & cannot provide Happiness, that Attachment to the Senses or their objects, is Bondage. They know that the Senses are neither Bliss nor Immortal. They know that the Purpose of Life is not fulfilled by any kind of sensory experience. They know that Liberation is not any kind of sensory experience & that

Realization is not a particular kind of Sensation. Realization is not an increase in Sensation & not an decrease in Sensation. One's freedom from the Senses must be firm & natural for there to be Realization. This necessitates the Knowledge of the Self's transcendence of the Senses. The Self is Infinite Consciousness, unchanging Existence, perfectly full Bliss. Vast & space-like, formless & unconditioned is the Self. Of immense, silent Peace, ever-shining & motionless, is the Self. Within the Self, without actually occurring, there is imagined the "real" of objective experience, manifesting as the World perceived by the 5 Senses. Those 5 Senses so appear, unreal but imagined, with their corresponding sense-objects (*sights, sounds, feelings, odors, tastes*). Within the different realms of the different Senses, a great variety of sensations & an apparently uncountable number or sense objects appear.

These are the Sense experiences of living beings, which are differentiated from one another by means of Mis-identification with the Body. Like the surface ripples & foam on the waves in the Sea of Consciousness, like clouds in the Sky of pure Being, so are the Senses. The Self is Existence-Consciousness-Happiness. To confound the Self with any or all of the Senses, in any way, is Ignorance. Freedom from Mis-identification with the Senses is Knowledge. Since Knowledge is Liberation, & since one seeks to know Reality & not create it, for Reality always is, therefore, one should discern clearly the Self. The Self is innately free from the Senses, & the Self is free from all the limitations of the Senses. The Self is singular & indivisible Existence.

The Senses are multiple & divided. The Senses are changeful, discontinuous, & impermanent. The Senses are lost (for some eventually or accidentally), dulled, or altered in death, old age, & illness. The Senses change during one's Lifetime, from infancy until the end of the Body. The Senses are changing all the time, transforming into dull & acute states, subject as they are to the 3 gunas – the "qualities" of *tamas* (inertia), *rajas* (agitation), *sattva* (tending toward the light of Knowledge). Each of the 5 Senses takes a turn due to a change of the Sense Organ, the mental attention, & similar factors. The Senses appear only in the Waking state. With each state of Mind (Waking, Dream, Deep Dreamless Sleep), the Senses change. Upon death of the Body, which is not the Self, the Senses are lost entirely. Rarely are all the 5 Senses active or experienced, simultaneously, but Existence is always wholly present. The Senses are just a momentary function.

The Self, however, is steady, self-existent Reality, permanent & not a function of some other thing. The Self is Being & not a doing or activity. The Self is not determined by any conditions & is itself without any conditions whatsoever. The Senses, though, are determined by any current conditions such as the condition of the Sense Organs & the environment. The experience of these is determined as the result of the interaction of what appears to have become split in Consciousness – that the object & the instrument (Sense Organ) used to know it – & the mental attention given to or removed from the Senses. From a higher view, in the one Mind, all 3 changing factors (object, instrument, mental attention) appear, determining the 5 Sense experiences. Partless Existence, which is the Self, is beyond the changeful appearances in the Mind. How can the Senses be considered to be the Self ?

#### NMT (No-Me Teaching) new series 34:

Prior to excerpting the Ramana Maharshi disciple, Master Nome in the text below we continue the series: *Fine-Tuned Universe 25*, the premise that a small change in several of the dimensionless fundamental physical constants would make the Universe incapable of Life.

#### Fine-Tuned Universe 25:

How did life begin ? [*confessions of the Atheist*]

Most scientists would answer, “by accident.” But what an absolutely unlikely accident it must have been ! The Earth on which life first appeared – prebiotic Earth – was most inhospitable: a violent place, wracked by storms and volcanoes, wrenched by the pull of a moon that was much closer than the one we know now, still battered by cosmic impacts. On its surface and in its oceans were myriads of organic compounds, some formed in processes occurring on earth, some imported by infalls from space. Out of this universe of tumult and molecules, somehow a small subset of chemical processes emerged and accidentally replicated, thus stumbling toward what became the first cells. How could such a chaotic mixture of molecules have generated cells?

Order usually decays toward disorder: Why do the tracks that led to life point in the opposite direction? The origin of life is one of the biggest of the big questions about the nature of existence. Origin tends to occur frequently in these big questions: the origin of the universe, the origin of matter, the origin of life, the origin of sentience. e, scientists and non-scientists alike, have troubles with such “origins” – we were not there watching when the first events happened, we can never replicate them, and, when those first events happened, there was, in fact, no “we.” I believe that one day we will be able to describe life in physical terms – that is, we will rationalize life satisfactorily in molecular detail

based on accepted scientific law and scientific theory using the scientific method. But we certainly do not know yet how to do it.

For understanding how organized living cells emerged from disorganized mixtures of molecules, how disorder can spontaneously become order, how to understand systems comprising many interacting parts:

We must wonder: what is “life” ? What are the characteristics of a cell, the simplest embodiment of life, that might allow us to trace back to its origins? When do molecules, and of processes that convert these molecules into one another, cross a line separating “not-alive” from “alive”? What is the tool – the “scientific method” – that science will use to try to address this problem?

### Denial:

The Scientific Method works most rigorously when it identifies observations that are incompatible with current hypotheses. Faced with a new observation, scientists list all hypotheses that might explain it and then discard those that are incompatible with accepted physical law. Hypotheses that are not discarded as incompatible remain possibilities. If only one remains, it is promoted to Theory. If disproving all hypotheses but one is not possible, we may retreat to demonstrating compatibility with theory, recognizing that compatibility is weaker than proof. In science, we use the phrases “I think . . .” and “I believe . . .” as synonyms, both implying “. . . based on known physical law.” In other words, “This theory accommodates all the observations that we currently know.”

So, what is Life?:

1. Life is compartmentalized. cells have a continuous, closed membrane separates “inside” from “outside.”
2. Life is dissipative, or out-of-equilibrium, requires a flow of energy, NOT equilibrium.
3. Life is self-replicating, produced by the division of a parent cell, will divide & produce daughter cells.
4. Life is adaptive. The cell can adapt its internal environment so that it functions even when the outside environment changes; in some circumstances, it can even modify the outside environment to make its inside more comfortable.

5. Life occurs in water. All life, so far as we know, involves molecules and salts dissolved or organized in a medium that is mostly water. We do not know whether water is essential to all life or just to life as we know it. But, at this time, we know no exceptions: life occurs in water.

Life is a spatially distinct, highly organized network of chemical reactions that occur in water and is characterized by a set of remarkable properties that enable it to replicate itself and to adapt to changes in its environment.

Life is very remarkable: Catalysis – Enzymes (valves in a cell chemical plant) one kind of molecule becomes another in a way analogous to valve controls the rate at which fluid flows through a pipe & catalysts – the valves – are themselves controlled by the molecules they produce: the products of one reaction can control the rate at which another reaction takes place.

Components of the network to form a single, coherent, interconnected, albeit very complicated, entity rather than an inchoate collection of independent processes, intricate “conversations” complex interactions modulated by signals from outside & internal “clock” = “cell cycle” – oscillates spontaneously, defines the sequence of stages through which the cell progresses as it replicates. Many molecules in the cell also have multiple roles: intermediates in one or many synthetic pathways, controllers of the activity of catalysts, signals for generating the catalysts and other molecules, sources of energy, and components of cell structure.

We do not understand how it all fits together & stability of Life & of the networks that compose it. Other very complicated networks (*global climate, air-traffic-control systems, stock market*) puzzlingly unstable & idiosyncratic. But Life is stable – it is able to withstand, or adapt to, remarkably severe external jolts and shocks; and its stability is even more puzzling than the instability of the climate. We have a hard enough time understanding even simple sets of coupled chemical reactions. And we have, at this time, no idea how to understand (*and certainly not how to construct*) the network of reactions that make up the simplest cell.

Some more selected verses from the Ramana Maharshi disciple, Master Nome:

The World is constituted solely of Sense Perceptions, usually made from a supposed Bodily location [*dreams have dream-bodies but out-of-the-body OOB experiences, etc. are exceptions*]. There is no World apart from these Perceptions. So the World is not “external”. The “external” is merely a conceptual interpretation of the Sensations. The Senses are known only by & in Consciousness. So what is thought of as “external” is entirely in Consciousness, which is free from the Senses. The “external World” is a mere Notion in Consciousness. Within that Notion there appears the whole “external” World.

That is one Notion fragmented into the imagining of endless objects that assumed to exist. That one Notion depends on the “I am the Body” belief. The World is a mere notion, an illusory appearance in one’s own Mind. Therefore, the Notion is called Maya, Illusion. But Illusion is that which is not.

Since the World is unreal, it can produce no Bondage. Being unreal, the World does not really come to be. It is for this reason that Maya is said to be beginningless [*not eternal – like it always was – but rather that it never started, never happened*]. Reality does not bring forth the unreal. Being Non-Dual, Reality does not bring forth any other thing that is real either. Ever-existent Being, itself Unborn, never creates at all. Nor it the unreal ever “born” [*beginningless – but this time because it never comes to be*], for the unreal does not exist. Being unreal, the World does not disappear for you (as individual) either, anymore than the Dream World disappears for the Dream character when one (like the real Self) awakens from both (*Dream World & Dream character*).

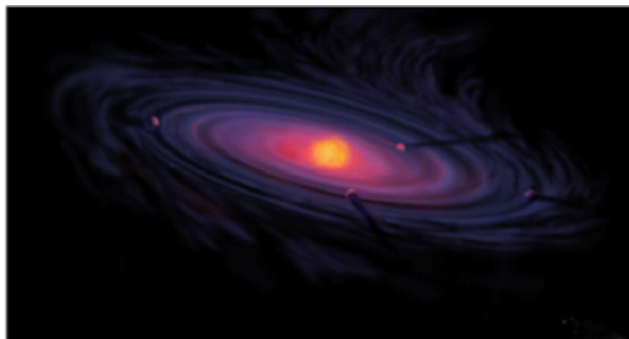
The World appears in Consciousness alone. The World is the known that is known by the knower (*apparent individual*). The World is also known “in” the knower (*the real Knower, the Self*). The World has no existence apart from the (*real*) Knower which is pure Consciousness. The World appears in Consciousness by the power of Consciousness. The World is composed of Consciousness, & is known or experienced by Consciousness. All of it is just Consciousness. The World has not the least degree of any other existence. One Existence-Consciousness exists everywhere always. The one Self experiences itself everywhere always. The Self itself is in that case just “thought of” as the World, Space, Time, matter, motion & events, moments, eons, things, & people – the animate & the inanimate, moving & still, large & small, living & dead, far & near, atoms & galaxies, root & flower, cause & effect, & all else. The one Self is all. The one Self appears as all this Universe. The Universe appears, in the Self. The Self being Formless & Infinite, does not appear in the Universe. The Self rather appears “as” the Universe, but that Self really undergoes no modifications. The Self always abides as the perfectly full Void of Being. If the World appears, the World & its knower (*apparent individual*) are only the Self. If there is no appearance of a World, there remains only the Self. In the Knowledge of the unalterable, ever-same Reality, the Self alone is. Thus, in Reality, there is no question of a World ever being created or ever appearing. For whom would a World appear, since there is no 2<sup>nd</sup> “self” but only the 1 Self, forever.

The Self is the only Seer of the World, if one is seen. The World, in turn, does not itself see the Self. Existence is Consciousness, & the Self is That. There is no existence apart from Consciousness, the Self. Realizing the Truth of the Self, one sees that there is no World. It is not that the Seer of Truth does not see the World, as if this Knowledge were a sensory (*deprived one*) state, but rather, the Seer of Truth sees that there is no World. The Seer of Truth is the Self, & the Self is indivisible, non-objective, without an exterior, undifferentiated, & 1-w/o-a-2<sup>nd</sup>. Consciousness, infinite & undivided, sees none but

itself. That which is not Consciousness does not see at all. Lacking Being, it [that which is not Consciousness ] also lacks knowing. As the Self, one does not see the World, & the World does not see oneself.

In Non-Duality, Being alone is Real. The World has never come to be, so it is said to be completely unreal. The World never was, is not, & never will be. The uncreated, unmodified, worldless Absolute alone is. That alone is, & That you are. The Real ever is, & the unreal has never come to be. The conclusion about this is known by the knowers of Truth.

NMT (No-Me Teaching) new series 36:



Prior to excerpting the Ramana Maharshi disciple, Master Nome in the text below we continue the series: *Fine-Tuned Universe 27*, the premise that a small change in several of dimensionless fundamental physical constants would make the Universe incapable of Life.

*[In the unreal reflection called the "Universe", a product of an unreal Mind, even there, Infinite Intelligence is evident and inspiring.]*

Fine-Tuned Universe 27:

Later Astronomical results from the Planck satellite combined with earlier observations from WMAP, ACT, SPT turned up evidence seriously conflicting with the Eternal Inflation model of Guth's "Quantum tunneling out of a false *Vacuum State*" & those who followed, in favor of less "eternal" models of "a scalar field rolling down a potential energy hill."

Simplest *inflaton* models were disfavored relative to "plateau-like" potentials. But that conflicts with Einstein field equations & exacerbates both the "initial conditions problem" & the Multi-Verse "unpredictability problem" & adds a new inflationary "unlikeliness problem." Thus the experimental data led to one of many previous models, but that model had its own problems. The net result was serious doubt The Eternal Inflation Model.

Tegmark & Greene provided a [4 & 9 – part, respectively] classification schemes of Multi-Verse models. A brief summary of this "circus", without much explanation, goes as follows:

### Level I [*in Tegmark's 4 – part scheme*]

Chaotic Inflation is the existence of an infinite *ergodic* Universe, which, being infinite, must contain "Hubble" volumes realizing all initial conditions. Accordingly, an infinite universe will contain an infinite number of Hubble volumes, all having the same physical laws and physical constants. In regard to configurations such as the distribution of matter, almost all will differ from our Hubble volume. However, because there are infinitely many, far beyond the cosmological horizon, there will eventually be Hubble volumes with similar, and even identical, configurations. By this model a Universe identical to ours should be about  $10^{10,000}$  meters away from us. Given infinite Space, there would, in fact, be an infinite number of Hubble volumes identical to ours in the universe. This follows directly from the "Copernican" Cosmological Principle, wherein it is assumed that our Hubble volume is not special or unique. In Chaotic Inflation theory the Multi-Verse or Space as a whole is stretching and will continue doing so forever, but some regions of space stop stretching and form distinct "bubbles" – like gas pockets in a loaf of rising bread. Such Bubbles are embryonic Level I Multi-Verses. Different Bubbles may experience different spontaneous symmetry breaking, which results in different properties, such as different physical constants.

### Level II

John Archibald Wheeler's Oscillatory Universe theory & Lee Smolin's *Fecund Universes* theory compound the scheme.

### Level III

Here is Hugh Everett Quantum *Many-Worlds Interpretation* (MWI). Quantum Mechanics observations cannot be predicted absolutely. Instead, there is a range of possible observations, each with a different probability. According to the MWI, each of these possible observations corresponds to a different Universe. The Level III Everett Multi-Verse does not contain more possibilities in the Hubble volume than a Level I or Level II Multi-Verse. In effect, all the different "worlds" created by "splits" in a Everett Level III Multi-Verse with the same physical constants can be found in some Hubble volume in a Level I Multi-Verse.

In Chaotic Inflation Level I, the multiple Universes reside in 3-D Space. In Everett Level III they are found on another Quantum branch in infinite-dimensional "Hilbert" Space."

On the other hand, Level II Oscillatory & Fecund Bubble Universes with different physical constants can, in effect, be found as "Worlds" created by Everett Many-Worlds Quantum

"splits" at the moment of spontaneous symmetry breaking in a Level III Multi-Verse. (*confusing ! ??*) This redundant Chaotic Inflation, "Multi-Verse – Quantum Many Worlds" in turn is subsumed, with Feynman's Multiple Histories Quantum Mechanics with under: Level IV.

#### Level IV

Tegmark's Ultimate Mathematical Universe Hypothesis considers all Universes to be equally real which can be described by different Mathematical structures.

Brian Greene's 9 – part scheme:

- 1) The Quilted Multi-Verse works only in an infinite universe. With an infinite amount of Space, every possible event will occur an infinite number of times. However, the speed of light prevents us from being aware of these other identical areas.
- 2) The Inflationary Multi-Verse is composed of various pockets in which Inflation fields collapse and form new Universes.
- 3) The Brane Multi-Verse holds that our entire Universe exists on a membrane (Brane) which floats in a higher dimension or "Bulk". In this Bulk, there are other membranes with their own Universes. These Universes can interact with one another, and when they collide, the violence and energy produced is more than enough to give rise to a Big Bang. The Branes float or drift near each other in the Bulk, and every few Trillion years collide. This repeated contact gives rise to multiple or "cyclic" Big Bangs. This falls under String Theory & requires extra Space dimensions.
- 4) The Cyclic Ekpyrotic Multi-Verse has multiple Branes that have collided, causing Big Bangs. The Universes bounce back and pass through Time until they are pulled back together and again collide, destroying the old contents and creating them anew.
- 5) The Landscape Multi-Verse relies on String Theory's Calabi–Yau Spaces. Quantum Fluctuations drop the Calabi–Yau shapes to a lower energy level, creating a pocket with a set of laws different from that of the surrounding Space.
- 6) The Quantum Multi-Verse creates a new Universe when a diversion in events occurs, as in the Many-Worlds Interpretation of Quantum Mechanics.
- 7) The Holographic Multi-Verse is derived from the theory that the surface area of a Space can simulate the volume of the region, in a 1-1 correspondence.
- 8) The Simulated Multi-Verse exists on vast, complex computer systems [pro] that simulate entire Universes.

9) The Ultimate Multi-Verse contains every Mathematically possible Universe under different laws of physics.

There are also Cyclic models (*eternity of Big Bangs, Big Crunches, Big Freezes*) & models from M-theory Brane cosmology & Black-Hole cosmology with Multi-Verses.

Some more selected verses from the Ramana Maharshi disciple, Master Nome disciple:

The Self is changeless. Thought is changeful. Thought cannot pertain to the Self. The Self is homogeneous. Thought has many aspects. Thought cannot pertain to the Self, nor define or confine the Self. The Self is continuous Existence-Consciousness. Thought is sporadic & each thought is momentary. Thought cannot pertain to the Self, nor define or confine the Self. The Self does not rise & has no disappearance. The rise & fall of thought can be observed by anyone who meditates with depth.

Thought then cannot pertain to the Self, nor define or confine the Self. Thought being objective is the known. Thought has no knowing power of its own. The Self is the Knower, the silent Witness of all. The Self is Consciousness, which is the Knower “of the field” [*a Bhagavad Gita reference*] & the Mind is the “field”. Since this is always so, thought cannot pertain to the Self, nor define or confine the Self.

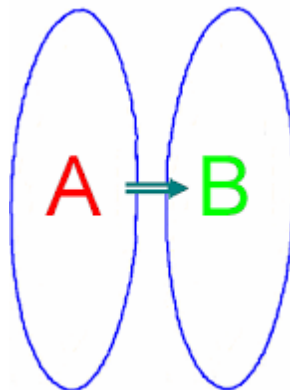
The “I” knows thought. Thought does not know the “I”. I am the unknown Knower of all knowing. This true Knowledge. None of the attributes of thought are those of the Self. Thought then cannot pertain to the Self, nor define or confine the Self. The Self is free from thought, Thought can never conceive of the Self. The Self is never an object of thought. Thought also has an objective element in it. The Self is ever non-objective. There is no such thing as a non-objective thought, since thought is always known & is always the thought “of” something, be it gross (material) or subtle (mental). The Self is never an object & can never be the known.

The Self is also Consciousness itself. Therefore the Self is ever of the nature that is transcendent of thought. The Self is not known by thought which means the Self is ever undefined by thought & cannot be bound by thought, no matter what the thought is. What is called “the Mind” is only a combination of thought & Consciousness. That combination is an Illusion. That is the Illusion of combining the ever formless with Consciousness is the Self & cannot truly be combined with thought, for the Self is formless & will not change its nature, is infinite & will not be added to, & is real Existence that cannot be combined with false appearances any more than a rope can be combined with an imagined snake, or the sand combined with the “water” in a mirage. What is casually termed “Mind” is only a collection, or movement of thought. The Mind does not exist as such, & it is not an independent entity. If thought is absent, there is said to be no Mind present.

Thought itself is inert. When the knowing Consciousness is confounded with thought, there arises the notion of a separate knowing entity called the “Mind”. Consciousness is the knowing aspect & is not a thought. No thought is Consciousness itself. Consciousness is the Self, & thus the Self is free from thought & free of the Mind. All that appears is only thought: the World, the Body, the Senses, subtle experience [certain meditative experiences], & of course, thinking itself. All are known in thought only. Thought itself is experienced as if it were all these things [we think it & then assume it really exists or really happened]. All [World, Body, Senses, etc.] are only thought. Thoughts [seem to] join only to other thoughts & affect only other thoughts. Thought appears as ideas, & thought itself appears as the things that concern those ideas. Thought cannot join with the Self & cannot affect the Self. Therefore, thought cannot bind us. Thoughts affect only thoughts [again seeming to since such are unreal]. The preceding thoughts generally determine the succeeding thoughts. The apparent interaction of things upon thought & thoughts upon things is entirely a play of thought, which is merely thoughts affecting thoughts.

Thought itself projects itself into itself. There is no “in” or “out” for such are only mere notions. It is just like the appearance of a Dream-thinker in a Dream. There appears to be Perception of objects & interior thoughts, be they conceptions, associations, emotions, memories, etc. The whole of the Dream, inner & outer, is actually just composed of thought appearing in various ways. Since there are truly no internal & external aspects in a Dream, though in the Dream such appear. So it is with thought, now in the Waking state, such as that in which these words appear. Even the largest thought occupies no Space, & the longest thought endures for no Time. Therefore, all that is conceived is Maya, Illusion. One thinks, envisions, dreams, & such without any connection to physical things. So it is with all thought. When thinking of a large mountain, or dreaming of being in another place, one’s “head” does not enlarge in the 1st case, or one’s Body does not travel to those places or those things being altered in any way. All is thought, inclusive of the large & small, now & then, this & that, you & I, he & she, here & there; Past, Present & Future; all actions, all occurrences; Life & Death; all that is considered the Universe-Individual-God. The Self transcends all this, for the Self is free from thought.

NMT (No-Me Teaching) new series 38:



Prior to excerpting the Ramana Maharshi disciple, Master Nome in the text below we skirt around the *Fine-Tuned Universe* series to set the stage for another series in *The Continuum*.

[In the unreal reflection called the "Universe", a product of an unreal Mind, even there, Infinite Intelligence is evident and inspiring.]

### Gaps:

We may think that 2 entities, principles, concrete or abstract, can be traversed as if they shared a single boundary.

But if we take a close-up at a touching point or shared boundary, we see that the “thin line” that makes up a boundary shared in common is a thin line with some width. With a front edge and a back edge, according to the direction traversed, there still must remain a “middle.” This “middle” is itself a “gap” or sorts. Any actual gap between proximate lines works the same.

Expanding this mid-line gap now we must ask how that mid-space is traversed. Is that gap part of A, or B, or nothing? If A how does it get to be B? If B already, it had no business being, or being in A. If “nothing”, then what happens in the “nothing”?

Can “nothing” be enough of a “something” for the transition to be defined, to continue, to exist in the interim? A “non-existence” that never came to be, cannot be known, thought of, or rightfully spoken of. Only an entity with being, with existence can be known, thought of, or spoken of.

An absence requires that any hypothetical thought of “nothing” is “no thought” of a thing. The would go as follows. *Thought* by nature is evanescent and a “switch” between *Thought* and no-*Thought* readily occurs in the blink of an eye.

But if *Thought* were a “thing” that would imply some greater stability, so that there is no such switch. A non-entity on the other hand can of course have no kind of “switch” or anything else. So the negative “not” or “no” must modify the *Thought* rather than an impossible “nothing” that would be said to be its object. So Nothing is not something that we can have a *Thought* about, but is rather the cessation of any *Thought* about a “thing”. Hence supposed *Thought* about Nothing can only be “no thought” of any thing.

Another perspective can derive from a very concrete entity like an apple, for instance. I can choose to “not eat” a given apple, but I can never eat a “non-apple.” Absence of apple taste implies failure to eat an apple, not the success in eating a non-apple.

The vacuous, empty void “gap” thus cannot be crossed because it is purported to be a Nothing and a Nothing is only what does not exist, not what does exist as some non-thing. Since every distinction requires a boundary and every boundary has a *gap* in its middle at least, and if a boundary cannot be real, neither can distinction or separation of any kind. There can be no multiplicity, *subject-object*, *cause-effect* or other such dualities. They fail at the boundary, at the un-crossable “gap”. Digitally numbered spectra entail the same paradox if mathematics is to hop from one number to the next. The continuum alternative brings in other difficulties when a multiplicity is to be described by the point-less and smooth, homogeneous continuum. Discrete spectrum or indefinable continuum, Math and Physics fall apart at their most basic “texture” either way.

Some more selected verses from the Ramana Maharshi disciple Master Nome:

Turiya or the transcendent state, is just pure Consciousness. Turiya is beyond the 3 states of Mind, & Turiyatita, Consciousness, is beyond the “the 4th” state. Consciousness remains as the one Existence which is in, & which itself is the Natural Innate state always.

None of the 3 states of Mind is consistent & ever-present. The 3 states are passing experiences. There are no aspects or phases for homogenous Consciousness, which is partless. Since it is Existence-Consciousness, the Self passes unaffected through those states, unmoved by the presence or absence of thoughts in any of their forms. The Self, being infinite, could not “pass” through something else.

The 3 states revolve in the Self, not the Self in them. There cannot be anything but the Self other than the undifferentiated Self. The Self is infinite, detached, unaffected, Reality, devoid of mis- perception & non-perception, with no Cause & having no Effect. In final Truth, there no states, & no Mind, & the Self is neither a Cause, nor an experience. Each thought may be regarded as affecting only other thoughts, since the Self is always the unaffected silent Witness of all the thoughts.

Each thought has nothing that actually connects to another thought. All “thoughts” are supported by Consciousness alone. Thought has no knowing power. A thought cannot know itself, not can it know another thought. No thought is self-existent. Each thought depends completely on Consciousness & is never known or experienced apart from Consciousness. Thought appears & disappears in Consciousness alone. So thought is just Consciousness viewed as thought. Thought is said to be a mode (*vrutti* or wave), a modification, or a form of Consciousness. Consciousness itself is forever formless, unmodified, & has no modes, since Consciousness is changeless & Eternal.

There cannot be a form of the Formless, or a modification of Changeless. There cannot be a mode for Birthless & the Eternal. Thought has no real Existence. Thought is like a snake imagined in a rope, or water in a mirage. Thought, both as particular thoughts & as thinking

itself, is not an attribute of Consciousness. A true attribute would need to be along with that, to which it is attributed, always. Consciousness is not by nature, a thought. Nor does Consciousness have thoughts always. Therefore, thought is not the attribute of the attributeless Consciousness.

Thought cannot exist without Consciousness. Consciousness exists without thought. The self-existent is alone Real, & the dependent does not truly exist. Thus, in Reality, thought is unreal & the Self alone is Real. The unreal is not an attribute of Reality, the Self. The unreal is not experienced by Reality, which of the nature of Existence-Consciousness- Happiness. What is not Real, & what is not experienced in or if the Real, does not exist. Thus, there are neither thoughts nor states of Mind. One vast Consciousness alone exists.

Essay outside of the NMT (No-Me Teaching) series:



Vision of the Self part I:

If *Saguna Brahman, Isvara*, God was like an *Ocean*, then Individuals would be like *Waves*, rising & falling, crashing against each other, "all within, as if" part of God. But Individuals, objects, & God have a common to nature as *Water*. As Consciousness, *Sat-Chit-Ananda*. Knowing this the Individuals cease to crash & Unity is realized. The identity of the Non-Dual Consciousness is thereafter established by Meditation, Self-Inquiry, & Abidance as Consciousness-knowing-itself. The rest of the World – other individuals & objects, also Ocean "water" (Consciousness), includes Logic & Math, all Thought & Causality, Time & Space. None of these function as separate influences, being as they are – mere evanescent shadow-forms in Consciousness.

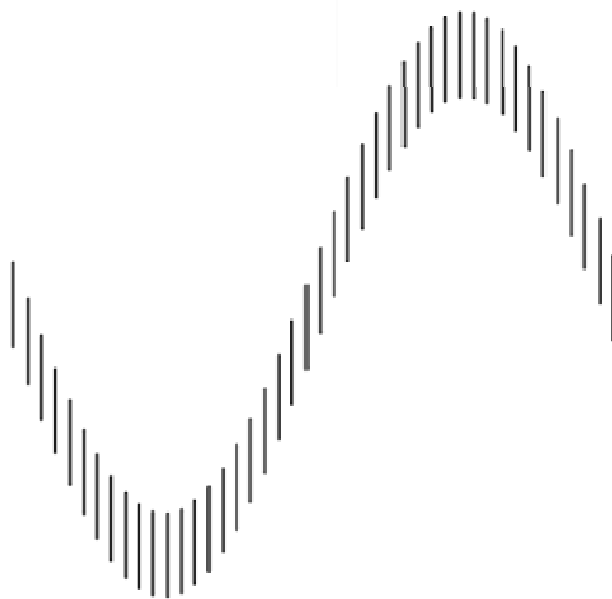
We look at a well-carved human figure on a surface of chiseled stone, depicting a group scene. Then we might forget the "stone" nature of the carving & imagine it to be an actual person. Looking back at the entire Rock, one can see rock as the "make-up", substance, of the carved "human figure". Furthermore it is recognized that the carved figure is rock only. Similarly, we can recognize Consciousness in any human form we perceive,

thereupon – that the "make-up", substance of the human is Consciousness alone. Furthermore all the other humans all, all the objects, all the World is Consciousness alone.

Thus the thoughts, the gap between thoughts, & the Deep Dreamless Sleep are known to be other than Nothingness, but rather Consciousness itself.

Changeless. formless. everlasting Consciousness holds all illusory Form, seemingly, including memories, for instance. Memory will also include the Actor, the Doer, the false "I"–Ego in midst of the scene–situation. So this Ego–Individual too is just another evanescent shadow–form in Consciousness, the Witness seemingly of all these. But with nothing real to witness, that too, that Witness fades to leave empty, shoreless Consciousness alone.

### Essay outside of the NMT (No-Me Teaching) series 2:



### Vision of the Self part II:

Every Perception is made of Consciousness, while every object is only the perception of that object. What the Buddhist call *Dependent Origination* is Boot–Strapping is between an object & its form – can't have one without the other. So neither is real. From Object, Form is equivalent, the 1<sup>st</sup> *Skandha*, "heap" or accumulation of false Boot–Straps, *Dependent Origination*.

Form likewise is inseparable from Sense-signals, *Skandha*, as in light Image, Sound, Feeling, Smell, Taste. The 2<sup>nd</sup> *Skandha* is inseparable from the Image, or whatever the specific Percept that is composed of the Sense signals.

Then the Retinal record, Sound impact, & so on, the "Species" is the 3<sup>rd</sup> *Skandha*. Each Species belongs to a more General, Generic quote, "Genus" or category by which Name can be given to Form, thus the Recognition which is the 4<sup>th</sup> *Skandha*. Cognition is Mind floating on & as Consciousness, the Witness & to Subject perceiving the Object. Thus from Object, it is Form – Sense – Specification – Generalization – Cognition that are the 5 *Skandhas* of Perception between Object & Subject, Consciousness. *Dependent Origination*, Boot–Strapping proves each "local pair & ultimately, Subject-Object to be false dualities. Non-Dual Consciousness alone is. T

The object is not other than Consciousness, though ultimately is not Real. "I", the Self is not the Body, Mind, Ego. And so no World or Senses that perceive it are Real. All feelings merge in *Ananda*, Bliss; all Thought in Consciousness, which is Existence itself, pure Being. False Doer-ship is never a thought during an Action, but only after or before.

Ego rests on body–identification. Separating "I" from the Body, by Self-Inquiry, erases Ego. Like the Doer of Action, the Experiencer of Sense & Thought is a an unreal Object. Subject & Object are Seer & Seen, both unreal & yet separable by Self-Inquiry..

One important limitation of the Water-Consciousness analogy: water modified by Time & Space rises into air as a Wave. For Consciousness there is no other air nor, no other Space into which a Wave can rise, & no "Time" to be integral to the motion, in Space during Time. By itself, Water could never form a Wave, & so Consciousness could never form a Thought.

The Wave Analogy applies to Thoughts, just as it does to Individuals. Changeless Reality admits of neither Birth or Death; neither good or bad *karma*; dualities like Pleasure-Pain; attraction or repulsion; & related pairs like fear & delusion – these I am beyond & these & all objects point to Consciousness. The World rises in Thought, Thought in Consciousness, all is Consciousness.

Essay outside of the NMT (No-Me Teaching) series 3 & 4:



Consciousness | Objective reality

private	public
subjective	objective
inner	outer
introspective	perceptible
ineffable	describable

Vision of the Self part III:

Bliss–Happiness is experience upon giving gaining a desired object, relief / security, Deep Dreamless Sleep, & between thoughts & the source & destination of all feelings. Consciousness is *self-luminous*.. Selfishness, Egotism, sense-of-mine, & attachment are not mine. I am pure, eternal, Non-Doer, all Love, stainless, one-without-a-2<sup>nd</sup>, unconditioned, changeless, independent, without attributes peaceful, indivisible, perfect.

Bondage derives from attributing reality to things that arise in thoughts. Objects could not connect with each other – being connected only with thought, the 2 (object – thought) being one & inseparable.

"Words" alone divide Consciousness into things. Memory, a thought, cannot prove thought real. Mind knows Subtle forms – Thoughts, Vision knows Forms, Hearing knows Sound, touch knows feelings; Olfaction knows Smell; Gustatory knows Tastes. None connect, except in Consciousness, but Consciousness only knows Consciousness. Giving up all stands beside Consciousness – liberates.

World is only the knowing—mode in play, the "stand" taken up. True experience of Self is without thought/object. The self is Knowledge & Happiness.

Objects do not "cause" experience. Thoughts merge into Existence/Being. Self is Consciousness, not the Body. Self persists in between thoughts & in all 3 States. Expansive experience derives from Self. Desire, bound with Time-bound objects, amounts to super-imposition of Self characteristics. Negative exclusion [*neti, neti*] cannot define, but only clear the way to the Self.

Even discriminating Intellect is an object of Consciousness. Each thought has an unreal beginning in Time, & a middle "made" of Consciousness. The inner response to "are you conscious ?" is an experience of Consciousness without an object.

"I" can never be known. Knowing something does not prove the thing Known, but only the Knowing. Between all things. a background of Consciousness vs. Nothing remains Consciousness—Self is without Duality, Multiplicity, Diversity, Variety.

Ignorant ones need no recollection, practice, or perception of the Body to continue to "know he is the Body." Without that false mis-identification, the Sage knows he is the Self, pure Consciousness without recollection, practice or perception. Self luminous Consciousness, unchanging, need not & cannot be experienced. Manifest or not, Consciousness is his True Nature, & he is ever completely at ease.

Sense is a function, but succeeding Knowledge is not a function. The object is dissolves in & becomes Knowledge. Manifest or not, is his True Nature since it is a function, but succeeding knowledge is not a function, the object dissolves in & becomes knowledge. One is Knowledge & not the Knower, Perceiver, Doer or Experiencer/Enjoyer.

There is no Seen before or after, & truly not even during the Knowing. Thought cannot connect with objects or other thoughts. Along with Objects, the Subject, Body & Mind are the Seen & not close to being Real. The Ego poses as "I" yet is false, but all up objects downstream are clearly unreal. Any reality attributed to the World with the its events & persons only deepens Body—identification. Favorable & unfavorable developments in the "World" belong to the unreal realm of Matter, Objects, & the Body.

All change belongs to the *Objective* unreal World. Desire for Happiness points to the prior Eternal Nature of as Ananda. Fear of Death also leads to Attachment to social & financial success, health, contentment, etc. – all reflect one's intuitive sense of Deathless Eternity. Transcending Time the Self can have no connection with the changing, Time—bound *Objective* realm.

Freedom is naturally wanted because the Self is unconditioned existence. Body connection gives rise to attachment, attraction, fear, aversion, sadness, deceit, laziness, dependence – all derive from Body connection. Love, Happiness, Freedom, Truth, Peace, Intelligence, courage, consistency, etc. all derive from the Self. Personality, in all its forms, derives from Body identification.

Always the Knower, Consciousness cannot be known, Reality is beyond words which can only be pointers to *It*. Consciousness can be contemplated indirectly as the sense of Existence; that "I exist". Eliminating each "thing" from "I" [*neti, neti*], what remains as "I" is the Self. "Consciousness", "Knowledge", "Existence", "being", "Happiness", "Bliss", "Freedom", – point to the real "I".

Essay outside of the NMT (No-Me Teaching) series 5a:



Vision of the Self part IV:

Thoughts rise & fall in Consciousness, event–things rise & fall in Existence, all Feelings rise & fall in Happiness. The Experiencer arises before & after Experience, but not during. Inversely, Knowledge & Happiness can only arise *after* Knowing & Experiencing. Likewise, the Object, if there is one, the Object of experience, knowledge, & happiness of all kinds (of a lower order) is not in Consciousness during the experience. Cause & Effect are never independent, (cause appears in the effect), nor are either real.

No Cause appears in Experience, which has no Cause, no Object. Merge thoughts into Consciousness.

“I” is neither to Doer of action, Enjoyer (good or bad) of Experience/and – of/

Contemplating the nature of Experience, this brings about merger of Thoughts. Thoughts do not exist; appearing to exist, thoughts are only Consciousness. Perception/knowledge = Mind taking the form of an object = "shining" on the object.

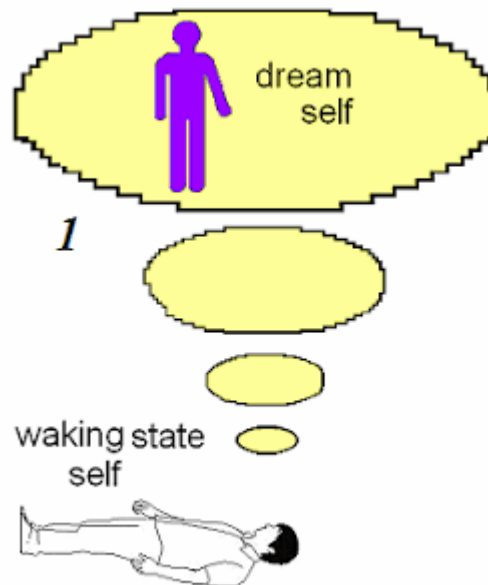
Such "modification" of Mind is witnessed by detached Consciousness – “I”. Abiding as “I”, there is no Body, World, Senses, Mind, Ego. Nothing ever came into Existence, nor is there a thought that anything ever did.

Non-connecting thoughts are not thoughts, nor are they in objects, nor are their objects real objects. The same applies to the "subtle" objects in thought. One cannot be inside the other. “I” is thoughtless, objectless, changeless, formless – a pointer to the Real. Past thoughts, *karma*, & objects cannot return or have influence. Thought & action are neither simultaneous nor connected. Ditto for 2 thoughts. Mind is dissolved between thoughts & cannot know the Self there, or in Deep Dreamless Sleep. Mind directed to Self, loses its false characteristics. Look to the “I”–Self–Consciousness "behind" as the Witness, & then "in front" in thoughts & feeling & their objects. Consciousness is not hidden but is in all activity.

Consciousness stands "before the eyes" in Perception, & without any Perception. With no experience of an object, there is only false "Knowledge" – falls because they can be no Knowledge of an object if it cannot be experienced.

Essay outside of the NMT (No-Me Teaching) series 6 & 7:

Self beyond Thought part I:



Thoughts & Feelings are of the Mind, not the Self – “I”, neither Body, nor Mind, Doer nor Enjoyer, I have no Birth, growth, decay, or Death, but is instead Consciousness without end.

The “I” rises before & after Thought & Feeling, Consciousness-without-an-Object & without Subject. This is the Bliss in Deep Dreamless Sleep & when desire for an object is fulfilled. The World is illumined by the light of the Self, the light in perception of the World. When

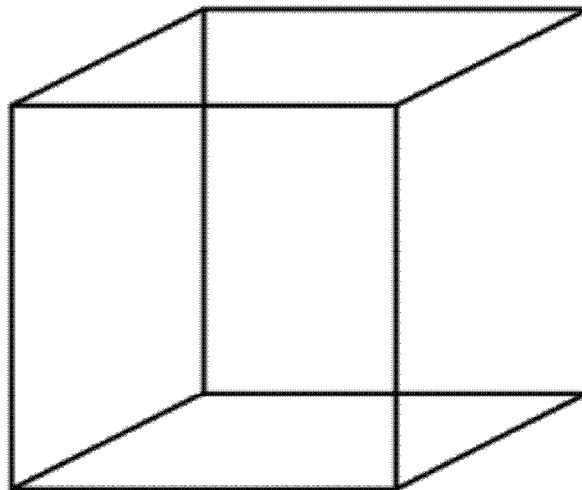
asked "do you exist?", one experiences Consciousness- without- an- object. Consciousness can never truly be an object to "have" or be a predicate object of "to be."

"I" is the knower, never known & all else but this Consciousness is never known. Seeing is inseparable from Form, bootstrapping each other by Dependent Origination, like "Heads" & "Tails" on the same coin. Likewise for Hearing & Sound; Touch & Feeling; Olfaction & Smell; Taste & Flavor; Mind & Thought; Sense & Object; Mind & "Subtle" Object. Consciousness alone knows, knows itself as the Absolute Reality.

Knowing the Dream does not prove reality of the Dream nor does knowing prove the reality of anything else Known. Consciousness alone is proven, Peaceful, true Holy, Changeless, & Free. The Object of Perception, in turn, is Existence itself, one with Consciousness, the Self, "I". Ignorant people need no special practice or remembrance to maintain their identities as a Body.

The Enlightened need no special practice or remembrance to know they are one with Consciousness, the Self. Just as the ignorant need not be perceiving the Body in any way to continue Body-identification, so to, the Enlightened need no experience other than the Self-luminous Consciousness to continue proper Self identification as the Absolute.

#### Essay outside of the NMT (No-Me Teaching) series 8:



#### Self beyond Thought part II:

Self-luminous Consciousness alone "seems" to illumine the whole World. Consciousness may or may not become manifest before a Perception, but the Sage knows Consciousness in all Perceptions, either way. Without that knowing, the Self as the Witness, that Self is seen as connected to Thought, Self is made the thinker, which is made the Perceiver, Experiencer, while the Thought becomes an Object.

Thus the Self is made to be a World & Bondage (non-liberation) from Ignorance ensues. "Going back the way you came" as Ramana Maharshi puts it, is the Path of Liberation from Ignorance & Bondage. Objects are *known* & dissolve into Consciousness, in fact are only the Knowing of them & thus only Consciousness. So an earthen pot breaks & crumbles back into earth from which it came, & of what which it was made.

Knowing & Perceiving are not functions, with objects acted upon, for those objects are only the Perceiving & Knowing. Even taken to be functions, Knowing & Perceiving, as if functions, Knowledge comes only after their cessation, just as Happiness or Sorrow are only known after the cessation of Enjoying or Suffering. So even if Knowing & Perceiving "were" taken as functions, knowledge would not be, but is rather "that into which" all the objects & functions dissolve. If anything, objects (*which have been the knowing & perceiving of them*) "become knowledge". As thoughts rise & set in Knowledge, so do feelings & emotions rise & set in Peace, Bliss, Ananda which as *Sat-Chit-Ananda* is the Self, Consciousness.

Before Seeing, the Seen does not exist, nor is there the Seen after. And in fact, not "during" the Seeing either. So thought cannot contact a gross physical object. Nor do "subtle" objects rise in thought as separate entities, for "subtle" objects imagined in thought are themselves only thought. One thought cannot exist "within" another [*although complex "nested" thought seems to appear*], nor can a thought contact another.

Nor can the thought contact or "have" a subtle or gross physical object – & is thus not really a thought, as generally considered. Objectless thought is Consciousness, "I", without separate existence. Thought has no connection with an Object, or an Action, or the Past or Future thought. Likewise Action & Thought; Thought & other Thought are "temporally" not connected/

Hence neither Thought nor Action can be binding. "Outside" does not exist. But during Thought, between Thoughts, & in Deep Dreamless Sleep, "I" continues. Mind dissolves in Deep Dreamless Sleep, & between thoughts & cannot perceive "I" there.

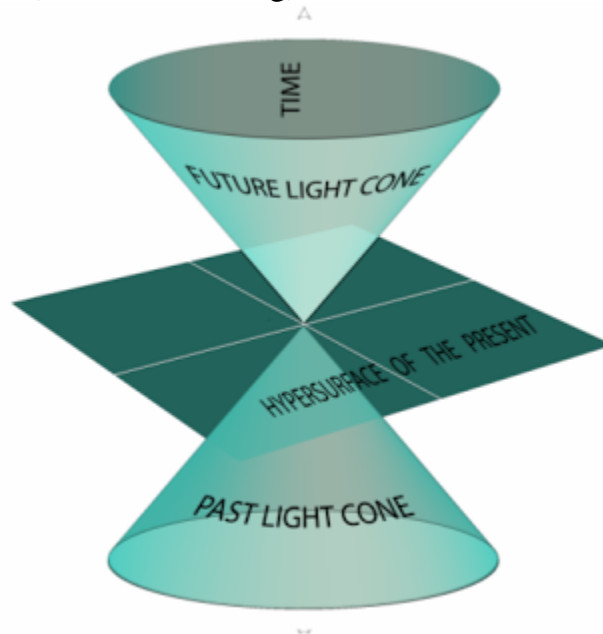
Mind directed to "I", merges; *Sahaja* is centered in the Self, with or without thought. Seeing is Form & vice versa, as in Perception–Object for the other 5 senses & the Mind.

Deep dreamless sleep prevails as Consciousness without ignorance or bondage.

Multiplicity – duality, diversification, differentiation, & variety are in objects (seemingly), not in Consciousness. Ditto for change wherein Consciousness or remains the reference background. "Changelessness" is falsely attributed to the Body, Senses, Mind, Will, & Intellect due to inability to see them as fleeting objects in Consciousness.

The insentient cannot know, while knowledge has nothing to know. Experience alone proves Existence. Objects are not experienced by thought. Only Knowledge is experience, the Self & not any objects.

### Essay outside of the NMT (No-Me Teaching) series 9 b



### Spiritual notes of a great Sage 1:

Deep Dreamless Sleep is a pointer to Absolute Reality (*Brahman – Consciousness*).

Sleep knowingly. "Who am I ?" "Where am I ?" "When am I ?" "I am NOT somebody." "I am NO WNERE." "I am TIMELESS."

Looking past all *Objective* Sense Perception, Mental Thought, & Emotional Feeling is to *look*, not into "Nothingness", but instead into one's True Nature, the Absolute Reality which is Real, unconditioned Happiness.

Knowledge of the *Objective* is Ignorance of Absolute Truth. That which was called "unknown" is in the Known & is still not known, *objectively*.

Enlightenment is to become aware of what you already are.

You "realize" the moment you hear the Truth from the Guru.

Absolute Truth cannot be expressed by word, thought, or feeling.

"I" is the changeless Subject of whole World of illusory Objects.

Diversity, Variety, initial Duality & Multiplicity *appears* only in Objects while the Consciousness, which perceives them all, is one & the same.

Discriminating the unreality & indirectly divine basis of *apparent* Objects can be an *adjunctive* contemplation helpful for some, but all must eventually render the Subject, the Witness back into the True "I" by means of the Self-Inquiry, "Who am I ?"

Loving "another" really means absorbing that *apparently* Objective "other" into your own Self, thereby destroying Illusion & separateness.

Enlightenment comes by knowing *Sat* [Existence], *Chit* [Consciousness].  
& *Ananda* [Happiness].

Spiritual practice is essentially *negative* by Discriminating & rejecting the unreal, because Absolute Reality formless, nameless attributeless, & not known as an Object.

Enlightenment is marked by deep Peace & id not to be disturbed from it, even for a moment.

Detachment is natural to us & is most natural & effortless, because Enlightenment is not something to be imported or acquired, but it already is, as the real Self, the True "I"

Realization is only Here & Now, for Time & Space are unreal.

See the Truth & hold on to it, till it becomes one's Natural State.

Essay outside of the NMT (No-Me Teaching) series 10



Some of Master Nome's earliest aphorisms about the unreality of a World:

There has never been a single objective thing. (1.3)

The World is unreal. (1.16)

All that is objective is illusion. Illusion is that which is not. (1.34)

All things change. that which is not a thing is immutable. (1.63)

There is no World (any objective thing), & there is no one to experience or know it. (1.94)

It is you who say that anything is real. the object does not declare its own reality. to known the Reality, know yourself. (2.54)

Any object of experience has no more existence separate from the Self than printed letters from a page of paper, or waves from water. (3.24)

It is better to say the World in you than you are in the World. (3.42)

An unreal body performs unreal actions in an unreal World. (3.50)

Do not be afraid to let go of a World that does not really exist. (3.57)

Know the World to be unreal and yourself as not a character in it, & the dream is over. (2.93)

Regard all manifestation as an hallucination or as a daydream lasting but a moment. (3.30)

Regard all thought as an empty echo and the World as a dream. (3.67)

Ego, manifestation, form and ignorance: these are like an optical illusion, a mirage, a dream without substance, the life-history of a fictional character. (3.96)

The conception of space requires misidentification with the body. The conception of time requires misidentification with thought. The Self is neither the body nor thought. It is spaceless and timeless. (1.37 )

As space is endless, clear, formless, embracing all, bound by none, all-pervading, ungraspable, & has no within or without, so it is with the Self. (1.61)

The World, time, space, life, death, objective things, the mind, ignorance, bondage, & an experiencer of these are just concepts. Concepts are unreal. Absolute Being alone is.  
(2.55)

### Spiritual notes of a great Sage 2

Reality remains unchanging states of Mind — Waking, Dream, & Deep Dreamless Sleep. Look to the common sense of Existence in all 3 States.

In every experience, the changing expression is the *objective* part, while the un changing Background is the *subjective* Consciousness part, which is the changeless Reality.

Bodies seem to be born & die, while the *subjective* Self transcends both.

Knowledge alone can know Knowledge, *Brahman* alone knows *Brahman*. That in you which knows you exist is *Brahman*.

Each is already Liberated, & he has only to know it.

Whatever you assume yourself, the *Atma* [Self] to be, so you will see the World "outside" you.

If you want Suffering, be attached to the World. If you want Happiness, be spiritual.

The vanishingly narrow "razor" of the "Present" moment is only a word representing the conceptual joining of a remembered, long-gone Past & an imagined, not-yet existing Future.

After Realization you may outwardly live exactly as before in terms of *Objective* appearance; but you cannot fail to know the *Subjective* transformation you have undergone.

Liberated Knowledge that dawns on the subsidence of the Ego can never cease to be.

Realization consists in becoming deeply aware of the fact that you have never been in Bondage.

Because Realization can never *happen*, it can never occur in Time. Only timeless self-awareness of the always-so Reality becomes vivid.

Self-Realization is not a case of understanding at all, but of being one with the Truth. *Merging* identity is a better hint at the inexpressible than any kind of thinking.

He who wants to get to the Truth does not crave for the fulfillment of individual desires.



### Essay outside of the NMT (No-Me Teaching) series 11

#### Some more verses from a great Sage:

When Brahman is visualized as Ultimate Truth, the World is reduced to mere appearance — making Brahman's title of *destroyership* literally significant.

Space begets objects, & objects beget Space. Science wants to establish oneness outside in objects perceived. But *Vedanta* wants to establish oneness inside, outside & everywhere.

When the thought that you are *Atma* [Self], the Reality, becomes as strong as your present thought that you are the body, then alone are you free.

Worldly knowledge is nothing other than giving a name to the unknown & dismissing it immediately from your mind.

Consciousness is the light of lights. Therefore Consciousness is self-luminous. Self-luminosity is the particular prerogative of Consciousness alone.

He who has destroyed the Ego in him knows neither doing nor non-doing.

Witnessing is silent awareness. Do not try to make it active in any way. Your *knowership* is objectless & can never be objectified. You should never try to know that you are the Knower.

The disinterested Witness alone enjoys the "picture" [*of a World*],

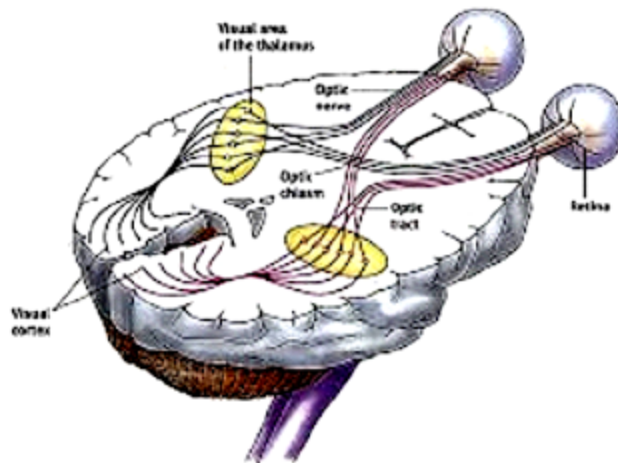
Spirituality replaces the Object by the Subject.

No amount of effort, taken on your own part, can ever take you to the Absolute.

The basic error is the false identification of the "I" with the Body, Senses or Mind — each at a different time. This is the pivot round which our worldly life revolves.

Personality rests with body, senses & mind. If you think you are impersonal, if you feel you are impersonal & if you act knowing that you are Impersonal, you are Impersonal.

### Essay outside of the NMT (No-Me Teaching) series 12



### Some more verses from a great Sage:

*Advaita* does not deal with opposites. When it says "non-objective", it does not mean "subjective" [*in E-books here we have coined the term "trans-subjective"*]. Negatives can never subsist independently, by themselves. They want a positive something, as their background – Absolute Brahman.

Desirelessness is the goal of all desires.

The *Witness* makes you selfless or egoless.

The Body does not exist, either when you stand separate from the Body, or when you think about the Body.

Science starts upon the basic error of giving independent existence to the World of objects, leaving the True Subject & the thing nearest to it — the Mind — un-examined.

When an *Object* is perceived, the *Object* is not there & you are ever in the same "place".

The World is the One appearing as *many*.

The *Guru* takes you from *phenomena* to the Absolute Brahman. Disciples need not wonder what the *Guru* is doing for them. Disciples can never understand the real significance. They need only know that Love becomes Divine when Ego is not present.

In Deep Dreamless Sleep, no Mind exists. no Self ever leaves.

Mind & Senses are only names of mis-identified functions of *Sat, Chit, Ananda* — manifested as *Life, Thought, & Feeling*.

#### Essay outside of the NMT (No-Me Teaching) series 14

"Quantum Reality" refers to interpretations of Quantum Mechanics, in terms of what it has to say about our understanding of the World. One major bone of contention between competing interpretations concerns the issue of Quantum Mechanics being *deterministic* or *not*. Other issues include the objective "reality" of entities described by Quantum Mechanics. Many settle for the outstanding experimental success of the mathematical formalism of Quantum Mechanics without regard for the physical meaning of the mathematical entities in the theory.

One such entity is the "wavefunction" & matrix representations of the same. Schrödinger associated the *wavefunction* with the Electron as a an electric Charge Density, a physical field spread out over infinite Space [though very *thinly* outside the conventional "size" of the Electron.

On the other hand, Max Born interpreted the same *wavefunction* as a Probability Distribution (*more specifically – complex, in the Math function sense, Probability Amplitude whose mathematically real squared absolute value renders Probability*).

Adding the now-so-controversial Wigner-Neumann Consciousness-created Quantum Reality to Born's Probability interpretation, the long-time, nearly unanimous "Copenhagen" (*home of Quantum Mechanics committee chairman Neils Bohr*) interpretation initially "competed" with some initially-unpopular *Realist* versions by David Bohm & Louis de Broglie, & others that followed in that vein. Also increasing have ever been the *Instrumentalist* positions that

ignored all explanation & the accepted abstract mathematical structure of Hilbert spaces & Quantum Mechanical operators.

The culture of Science veered away from the Copenhagen *Quantum Idealism* in parallel with 2 inspirations to do so, One was the Analytical Philosophy that succeeded Logical Positivism (*which had some idealist roots*), with the former dedicated to annihilate the reigning *Idealism* of the previous century. The other was a aversion to fundamentalist religion & a dominant "sophistication" of Atheism among Scientist (*to a degree contrasting with prior generations, including the Copenhagen group*). Atheist Pragmatist Philosophy's dominance in higher education was instrumental in this shift.

[Steve Martin's 2<sup>nd</sup> comedy album included a skit were he dies & is shocked to find himself at some Last Judgment before the Pearly Gates. He complains: "but in college they said all this was bullshit."]

Grasping for any *Realist* alternative, over the same decades up through many Modal wing-clipped theories of Quantum Mechanics, decades in which *Darwinism* fought "Armageddon" with *Creationism*, one fantastic *Realist* alternative that gained majority standing was Hugh Everett's *Many-Worlds* interpretation, considered now by Max Tegmark & Michio Kaku to be 1 of 4 "levels of Multi-Verse".

Recognition of *Anthropic Fine Tuning* of the Universe & studies of Quantum *Entanglement* & Delayed-Choice *Quantum Eraser* Double-Slit experiments have themselves exerted 2 opposing influences. On the one hand, they have hardened minority *Quantum Idealist* positions such as the Wheeler–Stapp Participatory-type Universes. At the same time those advances & others in Particle theory & Big-Bang Fundamental Forces issues have encouraged majority *Realisms* that are increasingly "unrealistic". The latter include *String Theory*, the *Multi-Verse* & also other complex Mathematical *sleight-of-hand* like Quantum Decoherence, Ensemble, Relational, Transactional, & Stochastic approaches, as well as Computational or Holographic Universes (*not that similar to David Bohm's earlier Holoverse Realism*). Objective collapse theories attempt to "split the difference" by upholding Realism while including *Idealist*–like indeterminism without hidden-variables.

Somehow, nearly everyone honors the original Mathematical formalism but then scatter into a *Tower of Babel* chaos of a hundred different theories of interpretation. *Advaita Vedantins* find the original Copenhagen Consciousness-created Reality most interesting while understandably remaining disappointed in the limited *objective* understanding of "consciousness" & the at-least-*Idealist* RWOT retained. Not driven to the far hills by desperate Atheism, any more than to the 4 levels of Multi-Verse "antidote" to *Anthropic Fine Tuning*, the *Vedantins* applaud Schrodinger, Bohr, Heisenberg, Dirac, Born, Wigner, von Neumann, Feynman & Wheeler (including both *Idealists* & *Realists* in that mix), yet maintain that all is Consciousness & the World is unreal.

## Essay outside of the NMT (No-Me Teaching) series 15

### Quantum Reality 2:

Classical Physics aspired to be *strongly objective*, assuming that it could be interpreted as a description of *mind-independent reality*. But right from the start, when Galileo began to quantify “speed” in simple terms like  $(\Delta x/\Delta t)$ , Western Science took a big step out of a Sense–Perceived World onto a page of Mathematical formulas. Instead of *mind-independent reality*, the focus, all the way through *SR* [special relativity], *GR* [general relativity], *QM* [quantum mechanics], *QFT* [quantum field theory], *QED* [quantum electro-dynamics], *QG* [quantum gravity] & *String Theory* shifted to a *mind-created reality* of Mathematical models. But only Quantum Mechanics, especially in the standard Copenhagen II Convention admitted explicitly to *Consciousness-created Quantum Reality*. Even so Quantum Mechanics claimed to be *weakly objective* in that “real” phenomena (*if not real entities*) were *inter-subjectively valid*, (shared experiences of many observers), but still referred to *operations of the Mind* that *participated* in an observed phenomenon or measurement. Delayed-Choice Double Slit, Quantum Erasure, & various Bell’s Theorem – related experiments may occupy us another day, but suffice it to say for now, that such as these contradict any *strongly objective* descriptor for Quantum Mechanics.

What Quantum Mechanics did retain was the “Gold Standard” of Science Models, the ability to *Predict* previously unobserved or unmeasured phenomena. But conventional *Scientific Realism* remained denied by Quantum Mechanics, so that *Hidden-Variable*, *Many-Worlds*, *Decoherence*, & many other *Realist* alternative formulations have been adhered to now by a majority of leading Physicists – though not justifiably so. These *Realists* cling with strong Metaphysical *bias* for *Realism* that smacks of pseudo-religious fervor.

Similarly, the *Multi-Verse* is fantastically held up as denial of any *Strong Anthropic Principle* explanation of the extreme *Fine Tuning* of our Universe. These *Realist* movements ceased being Science & have long become ideological, pseudo-political, pseudo-religious, metaphysical bastions of intolerance of any alternatives or opposition.

*Ad hominem* put-downs of nay-sayers, non-funding, non-tenuring, non-hiring freeze-outs coral even *Instrumentalist Anti-Realism*, not to mention *Quantum Idealism* into the same academic prison-camp reserved for Young-Earth Creationists, Astrologists, Para-Psychologists, & so on.

The *Scientific Realist* swears to the *objective* reality of a *RWOT real-world-out-there* & even their invisible invented– entities like Electrons, Quarks, Strings, Branes, & so on.

The *Quantum Idealist*, for one, established that such a *Realist* proposition is unprovable. At the same time all admit that the *fact that a proposition can not be proven is not a proof that it is wrong*.

Lines of force, action at a distance, various fields, & even “inertia” can neither be directly experienced or proven. More significantly, alternate interpretations always remain unexamined, even for Quantum Mechanics where dozens of interpretations have already been studied. Science, as we know it, amounts to (*mathematically synthesized*) relations between observed phenomena. Predictive & Prescriptive *principles*, of themselves, are not strictly *objective*.

In fact, Immanuel Kant, a defender of *Realism* in the end, still found “Time & Space” to be mental constructions that we project onto an otherwise *real* World. Augustine, Anselm, Aquinas & medieval Western Philosophers echoed, neo-Platonists, Plato, & the Eleatic Philosophers (Parmenides, Zeno, Melissus) in questioning the Reality of Time, as we conceive it. While “time” for instance, is a side-issue in Quantum Reality, we will divert to that discussion, in brief, if only because it is so accessible. Cause & Effect, Perception, & similar issues previously introduced here will also see the light of day before we finish with Quantum Reality.

For the moment we end for now with a quick review of the “3 Times” principle found throughout Eastern Philosophy for millennia & echoed again in the above mentioned Eleatic Philosophers, Plato, neo-Platonists, medieval philosophers, Kant, McTaggart, etc. What amounts to a *Presentism* (& beyond) goes as follows.

In the simplest Time Line with an infinitesimal Zero-Point Origin at “Now”, the entire *ray* to the negative left-side of this 1-D space of Time is the *Past* which is gone forever & no longer has any reality. The entire *ray* to the positive right-side of this 1-D space of Time is the *Future* which has not yet come to be does not yet possess any reality. The so-called *Present* is an ever shrinking, thin slice between an unreal *Past* & an unreal *Future*. We can imagine this supposed slice of *Present* time to be vanishing to an infinitesimally short duration, bracketing & then merely consisting of the infinitesimal Zero-Point Origin of “Now”, & then it’s gone. Even one Planck Quantum of Time,  $\sim \frac{1}{2} \times 10^{-43}$  sec, back into the *Past* is that which is gone forever. Even one Planck Quantum of Time forward into the *Future* is that which has not yet come to be. The *Present* vanishes as what Augustine called a “knife-edge”, while some Eastern Philosophers referred to it as one version of a “razor’s edge.” It’s gone, all with the *Past*, the *Future*, & Time itself. Non-Dual Absolute Reality is Timeless.

### Consilience of Inductions

“Consilience of Inductions” was a quaint term coined by William Whewell in his 1840 *Philosophy of the Inductive Sciences*. Newton's term *vera causa* “true cause” supposedly lies at the center of the very best kinds of scientific theories. Some, the Empiricists held that a true cause is something that we ourselves experience directly. We

know for instance that a force [*Gravity*] is pulling the Moon toward the Earth, because we have had direct experience of the tug of a string [*tension*] as we are whirling it around with a weight tied to its end. But Whewell was a Rationalist who characterized a true cause as something that is adequate to explain the empirical facts. Such a cause has to be at the center of a scientific explanation, explaining all of the facts & in turn being explained by them. If such a cause can predict & explain new & unexpected facts, then so much the better. Such a fanlike construction, with the *Cause* at the apex, was a "Consilience of Inductions".

*Occam's Razor*, that it be as simple as it is possible for a theory to be, suggests that a "true cause" is also marked by being the most economical of explanatory forces, with many parts being reduced to one fundamental mechanism.

The gravitational attraction within Newtonian mechanics, the wave theory of Light from Christiaan Huygens & Thomas Young's explained the Double-Slit experiment while Light Particles could not. Whewell's arguments impressed the young Charles Darwin, whose *vera causa* became Natural Selection. For Geologists, it became Plate Tectonics.

Secular Humanists hope for a "Consilience of Inductions" combining Human Cooperation with Environmentalism. True Non-Duality, underlying all that is positive, is the only Ultimate.

Essay outside of the NMT (No-Me Teaching) series 16

*Quantum Reality 3 – Time 1 – linguistic::*

Time is discussed in terms of grammatical Tense, & in terms of Metaphysical Tense. With grammatical Tense, such as seen in verb vowels & endings & auxiliary words (sank, sink, will have sunk; *did, have done, am doing, do, will have done, will do*), we also consider a somewhat overlapping category of Linguistic Tense, where Tense appears in modifications of verb form, adverbs, adjectives, & nouns.

Tense as modifications of verb form includes simple tenses: Past, Present, Future & "Perfect" Tenses: Pluperfect, Present Perfect, Future Perfect.

Aside from Tense, grammar includes Mood (*or Modality, either way expressing a degree of necessity, obligation, probability, ability, & sometimes evidentiality*) such as Indicative, Subjunctive, Conditional, Optative, Imperative, Jussive, Potential, Inferential, Interrogative, & related Exclamatory Interjection. Some consider the *Future Tense* to be merely a variant of Mood, due to uncertainty surrounding an occurrence that has not yet come to pass (*as in comparing "will" with "would"*).

The auxiliary verbs *will* (+ the present tense) with the simple infinitive as in: *I will go* to compares to combinations of verbs such as: *to be going to, to be about to* &

also *modal* auxiliary (*subjunctive*) verbs: *must, should, can, may, might* which elements of uncertainty.

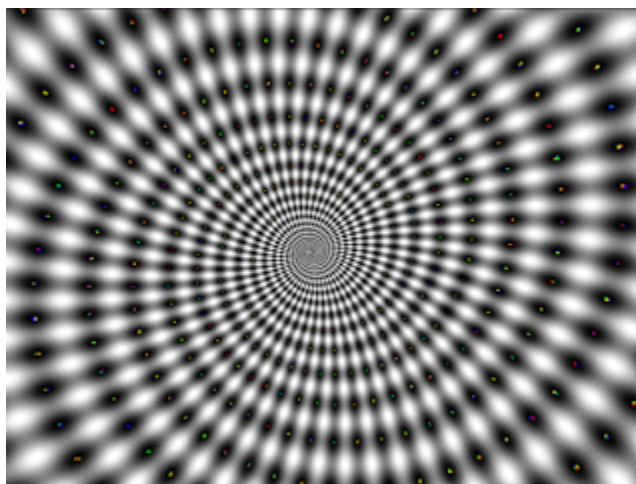
Linguistic Tense includes “lexical” items like: *now, today, yesterday, presently*. There are also “lexically composite” expressions such as: *moments before, after dinner, 3 weeks hence, during, ago*. These lexical & lexically composite expressions include grammatical categories of both Tense & *Aspect*. This *Aspect* provides context to extend the range of Tense & / or to add specificity.

Linguistic Tense is a *grammaticalised* expression of location in Time that is comparatively insensitive, whereas lexically *composite* expressions can locate in Time with a higher precision, using words like: *after & ago*. Simple Verbal Tense is unable to locate events in Time with as much specificity, being unable to distinguish degrees of remoteness in the Past or Future. Tense is relatively limited for locating events in Time, compared to other linguistic expressions. There are inherent constraints on the range of expressions of location in Time that can be *grammaticalized*. Some *constraints* in grammatical Tense are tied to the notion of a *deictic* center reference point relative to which events are located in Time. Typically, events are located in Time relative to the moment of speech which often serves as a temporal reference point.

Many lexical & lexically composite expressions for locating events in time are also *deictic* [specifying identity/spatial/temporal location from the perspective of participants in speech or writing, in a context or external situation or surrounding discourse, as in: *we, you, here, there, now, then, this, that, the former, the latter*]. The same holds for *1 wk ago, 3 min hence, yesterday, today, [or not] & also 1 hr after the start of the session, at noon, during the ceremony, ...*).

Only Tense is constrained in this way since Tense locates the *time* of an event relative to *time* of utterance. In these & other issues of “context”, *Aspect* (of which some 40–odd types are describe) is a feature of language concerned with “*internal temporal constituency of situation*”.

[Pretty heavy going, for such is the *lay of the land*. But its sometimes good to *see what we’re up against*. We speak casually about Time, but it’s all not so easy if you want to be careful & precise.



Essay outside of the NMT (No-Me Teaching) series 17

*Quantum Reality 3 (cont) – Time 2 – casual [not causal]:*

Quantum Reality diverted to the topic of Time (*our sense of flowing Consciousness; later for Space – fundamental analogy for Existence*), & we started with Grammatical of Linguistic Time as Tense (*which will continue a bit later as Metaphysical Time & Tense*), & we will soon follow with the Science of Time. But for the moment, we lighten up with some casual, common-sensical ideas about Time.

We readily use hearing to measure Time as beat & sequence of sounds. Visually marking a series of positions for a “moving” object measures our Time as *movement*, from everyday objects to the *movement* of the Sun & Moon to measure Clock & Calendar Time. But in the short term, even if all our senses were prevented from functioning for a while, we could still notice the passing of Time through the changing pattern of our thoughts. But what is the “Perception” of Time ? We do not actually *perceive* Time as such, but rather only indirectly infer Time from the changes or events we consider to be strung out in Time. And yet again, we do not *perceive* events only, but also their temporal relations, analogous to the spatial distances & relations between objects in Space (*again a topic for another day*).

In fact as we measure the Time between positions along the length of a perceived *object* we thus estimate that *length* in terms of the Time of our scan. In this way, our visual sense creates 1-D Space from the Time of the visual scan. The same in a perpendicular directions widens the 1-D *length* (with the help of similar *width*) to 2-D *area*. Repeating the same again in a 3<sup>rd</sup> mutually perpendicular direction adds *depth* & thickens our 2-D *area* to 3-D *volume* & thus 3-D Space. Tactile senses roughen up & ultimately fill out that visually perceived 3-D with a sense of *substance*. Thus we use the sense of Time to project the sense of Space with the Senses.

But when we turn the Senses at Time & seem to perceive one event following another, what we actually perceive is each Moment as the Present Moment in its own Time. We then *mentally* apply Memory & Anticipation to stretch out the infinitesimal Present into Past-Present-Future Time. But what we actually *perceive*, we perceive as Present – as what is going on right Now.

But can we perceive a relation between 2 events without also perceiving the events themselves ? No we cannot, but we perceive both events as Present, in which case we must perceive them as *simultaneous*, & so not as *successive* after all. There is thus *paradox* in the notion of perceiving an event as occurring after another. When we perceive B as coming after A, we have, surely, ceased to perceive A. In that case, A is merely an item in our *memory*. Now if we wanted to construe “*perception*” narrowly, excluding any element of *memory*, then we would have to say that we do not, after all, perceive B as following A.

If we were to construe “*perception*” more broadly, we would need to include a wide range of experiences of Time that essentially involve the Senses in a wide manner of *perceiving* a variety of temporal aspects of the World. In the late ‘70’s, Ernst Pöppel enumerated “elementary time experiences” like: (i) duration, non-simultaneity, order, past & present, change, & the *passage* of Time. *Non-simultaneity*, for instance, is the same as the experience of Time Order when 2 events occur very close together in Time. We can be aware that they occur at different times without being able to say which one came first. The perception of Order depends on the distinction between Past & Present. In a subsequent segment we continue to contrast the experience of Tense (*discussed previously in linguistic terms*) & this experience of order (McTaggart’s A-series versus B-series).

Like the “meditation on the 3 Times” (*found both in Vedanta & Augustine of Hippo*) Memory is an essential mental construct in the (*either or*) any Time series. All taking up that contemplation recognize that Past & Future exist only in the Mind.

One alternative remedy to compare with the role of Memory is the “*specious Present*” of William James, “the prototype of all conceived times” which is “the short duration of which we are immediately & incessantly sensible.” In that conjecture, James psychologically *quantized* Subjective Time, stipulating some temporal “width” for the Present moment. “We are constantly aware of a certain duration – the *specious present* varying from a few seconds to probably not more than a minute, & this *duration* (*with its content perceived as having one part earlier & another part later*) is the original intuition of Time” – such was the insight of William James.



Essay outside of the NMT (No-Me Teaching) series 17 b

*Quantum Reality (cont) – Time 3 – physics A - Science:*

Continuing at first our previous “common-sensical” notions about Time, we note that in our every sense of it, Time “marches on” out of our control. Time “flows” & “goes by” [ *as Sam played it again in “Casablanca”*]. Even in Science & Philosophy, Time is put “before” the Big-Bang as potentially existent & “ready to go”, even put beyond God who is placed in Time that contains Him [like Cronos on Mt. Olympus was given primacy & seniority, as the father of Zeus – but that common reference is not really fair because Chronos (different spelling) was Time, not Cronos].

The predictable *trajectory* of moving objects described by Classical Mechanics reinforces that impressions. For such simple systems, we can “predict the Future” when given initial Velocity vector & applied Force & resulting applicable Acceleration (*such as, of Gravity*). Physics frequently sets Time as the *abscissa* or horizontal Coordinate on graphs, especially since it can be considered an *extensive* “independent” Coordinate [2 criteria, preferred for though neither absolutely essential for, the horizontal Coordinate].

Furthermore, Thermodynamics (*though not the microscopic irreversibility of Statistical Mechanics*) bestows upon Time an “arrow” – a direction from Past on into the Future. Drop *Humpty Dumpty*, or any other egg, & the process will not go backwards so as to decrease rather than increase Entropy. [Science admits other “arrows” for Time, but this one for eggs, human bodies, anything, is the simplest & most “straightforward” (excuse the pun)]. Depicting 2 states of a system, we can often recognize which “came first” simply by ordering lesser to greater Entropy of disorder.

So flew the “arrow of Time” in Newton’s Absolute Space & Time [*both are really “there” even when nothing else is around*] until that “apple-cart” (*again excuse the pun*) was overturned by Einstein’s Special Relativity (SR) Space-Time continuum. In the provably truer model of SR, Space itself was replaced by the *distances* between objects [*relative to the observer(s)*] & Time was replaced by the *durations* between events. In other words, there really was no “Nothing”, Void between objects & events [*in agreement with the Eleatic Philosophers*], just the “naked measurements”.

Time in SR (*like Space*) could be stretched-out (*dilated*) or compressed in the comparison between the experience of 2 Observers with large Velocities relative to the observed event. Even the “arrow of Time” could seem to be reversed for high Velocities (& high Acceleration in General Relativity (GR) [*all subject to party-pooing disclaimers about the transfer of efficacious Information*]).

Backing up to the moment of the Big Bang & at the *Event Horizon* of every Black Hole [*they have been verified for a long time now*] Time of course “stands still” (*like in an X-men movie*).

Our mundane sense & measurement of Time is often determined by uniformly repetitive motion such as in: atomic transitions, the Sun, the Moon, a pendulum, a spring ratchet, an electro-magnetic field, sand or water through an hour-glass, & so on. On the larger scale we use observed evidence to mark points in historical time. Some evergreens date back 6 millennia. Ice cores in Greenland set dates of a hundred millennia. Ice cores in Anartical set dates of a almost a ½ Million years, certain sediments to almost a Million. Certain Tidal information sets dates of a ½ Billion years.

Radioactive nuclides (*isomers of various elements*) can extend the clock in ½–life increments of ¾ of a Billion years with <sup>235</sup>U, & in 1 ¼ Billion year increments with <sup>40</sup>K. The more slowly decaying <sup>238</sup>U increments are 4 ½ Billion, while those of <sup>176</sup>Lu are 36 Billion, those of <sup>187</sup>Re are 43 Billion, & while those of <sup>87</sup>Rb are almost 50 Billion.

The last practical “clock” <sup>147</sup>Sm, offers up increments of a 100 Billion years. Of course “just” 4 ½ Billion takes us through the Age of the Earth while 14 Billion takes us back past the Big Bang. But even this limited variety of Time-measuring tools allows for multiply redundant confirmation of Geological Time estimates.

SR relative–Velocity *red-shifts* in the frequency (~ *color*) of astronomical Light, GR relative–Acceleration *red-shifts*, & more importantly, *Inflation* & other expansion *red-shifts* measure Space-Time intervals that combine spatial distance with temporal measurements of Time. “Standard Candle” measurements come into play at these scales also. From the Pit (*black hole*) to the Pendulum, through *red-shifts* (& *blue*),

Big Bang, Inflation–Expansion & all that we sketch a few details at a later point  
[including a review of the famous *1<sup>st</sup> 3 minutes*]. But next we brave the mind-numbing  
perils of Philosophy to compare to our prior Grammatical/Linguistic Tense & Time to  
that of Metaphysics.